

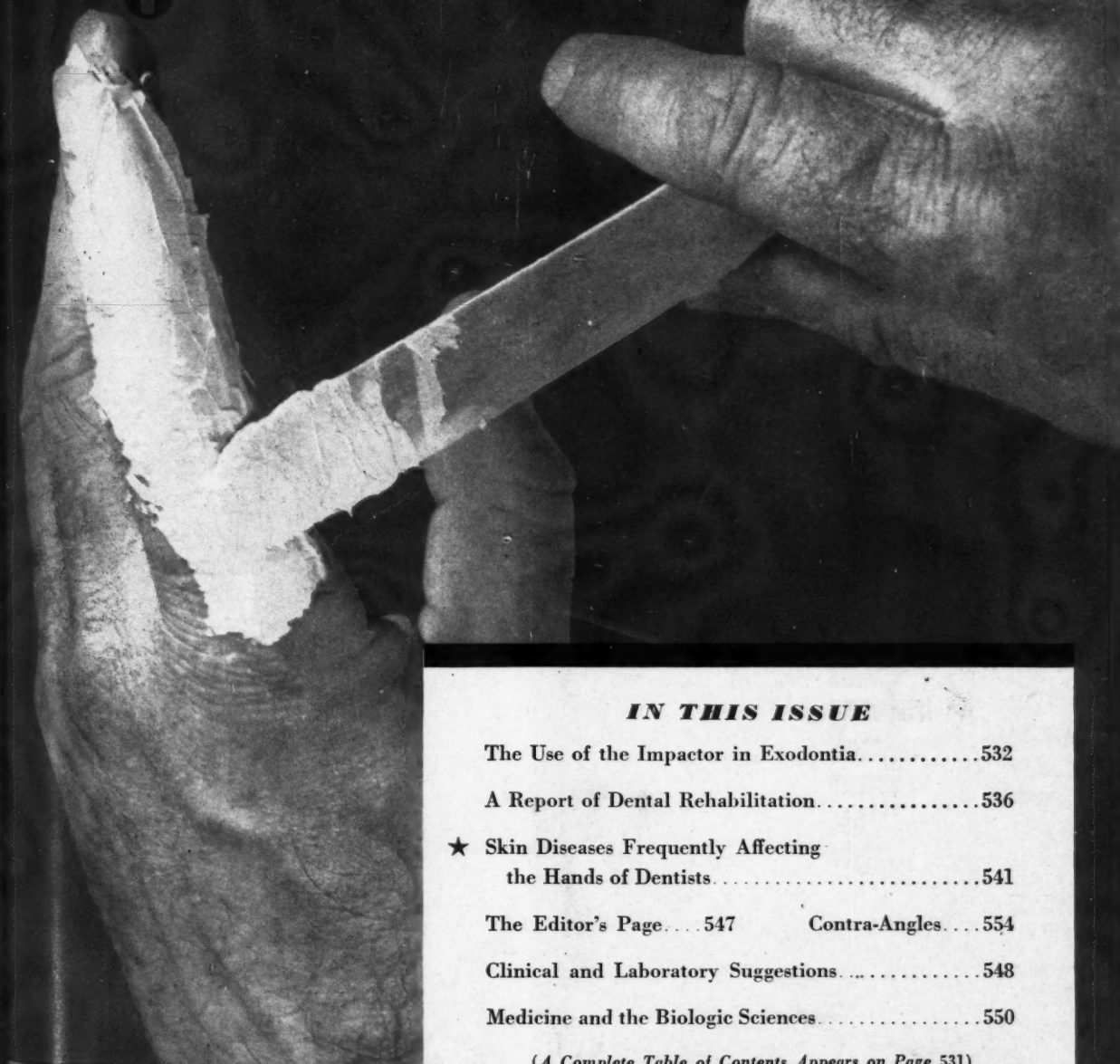
Dental

PROPERTY OF
DENTAL LIBRARY
UNIVERSITY OF MICHIGAN
DON'T MUTILATE OR
REMOVE

NOVEMBER • 1947

NOV 24 1947

Digest



IN THIS ISSUE

- The Use of the Impactor in Exodontia.....532
- A Report of Dental Rehabilitation.....536
- ★ Skin Diseases Frequently Affecting
the Hands of Dentists.....541
- The Editor's Page....547 Contra-Angles....554
- Clinical and Laboratory Suggestions.....548
- Medicine and the Biologic Sciences.....550

(A Complete Table of Contents Appears on Page 531)

personalized dentures...



with FIVE-PHASE

A N T E R I O R S



STEREOTYPED
DENTURE

PERSONALIZED
DENTURE

THESE
PHOTOGRAPHS
ARE NOT
RETOUCHED

The "personalized denture" represents the highest achievement in modern restorative Dentistry—and it is very easily produced for the edentulous patient!

First: A Family Trait Recorder is used to register a 3-dimensional plaster model of the dentition of a relative (brother, sister, child or grandchild).

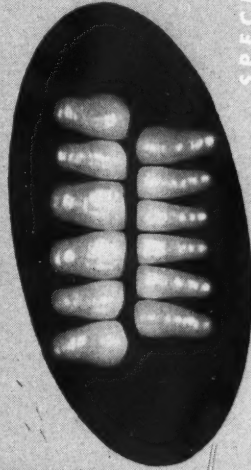
Second: Teeth are then selected which will duplicate the varied labial tooth characters and the tooth arrangement shown by the "Recorder" Model.

You can find all the "living" tooth characters required to personalize the denture in Five-Phase Anteriors.

As a matter of fact, they are the only teeth that provide: 1. Varied labial contours and markings. 2. Co-acting proximals for the simple transposition of teeth from different size sets into the same denture. 3. Co-ordinate size system to make proper selections practical and possible. 4. Veri-chrome Natural Tooth Colors and their con-

trolled brilliance which assures a lifelike blending of tooth colors when more than one color is required in a single denture. 5. "Living" depth, refraction and translucency of Veri-chrome Porcelain.

You will be more than gratified by the esthetic improvements achieved with Five-Phase Anteriors and the personalized denture. Since you will undoubtedly want to discuss the matter with your Technician, we have already informed him of the procedure. ★ ★ ★ ★ ★



FIVE-PHASE

A N T E R I O R S

WRITE FOR A
FAMILY
TRAIT
RECORDER
AND PROCEDURE
FOR
PERSONALIZED
DENTURES.

SPECIFY WITH THE VERI — CHROME COLOR GUIDE

Vol. 53, No. 11

Dental Digest

NOVEMBER 1947

About Our

CONTRIBUTORS

Doctor MEISTROFF is a graduate of the Medical College of Virginia, School of Dentistry, 1931. With A PROSTHETIC SHORTCUT in the April issue he resumed his Digest contributions as a civilian after serving in the Army Dental Corps. THE USE OF THE IMPACTOR IN EXODONTIA is the first of several articles on a technique in which this instrument is used. It is emphasized that less force is required and trauma to the tissues is reduced.

GEORGE MATULA, D.D.S. (University of Illinois, College of Dentistry, 1927) reports a case of mouth rehabilitation from his general practice. Stress is placed on the need for gaining the patient's cooperation. This is Doctor Matula's first contribution to the Digest.

LESTER HOLLANDER, M.D., F.A.C.P. (University of Pittsburgh, 1912), a dermatologist, is Medical Director of the Pittsburgh Skin and Cancer Foundation. His professional affiliations include the American Radium Society and the American College of Dermatologists. Doctor Hollander is an authority in his field. The number of his medical writings exceeds one hundred. Appearing here this month is a practical discussion by him of the causes and treatment of SKIN DISEASES FREQUENTLY AFFECTING THE HANDS OF DENTISTS.

The Use of the Impactor in Exodontia <i>C. L. Meistroff, D.D.S.</i>	532
A Report of Dental Rehabilitation <i>George Matula, D.D.S.</i>	536
Skin Diseases Frequently Affecting the Hands of Dentists <i>Lester Hollander, M.D.</i>	541
The Editor's Page	547
Contra-Angles	554
Clinical and Laboratory Suggestions	548
1. A Method of Preparing Sutures. 2. Easy Replacement of Die on the Articulator. 3. Localizing Fractured Root Ends. 4. Plastic Sprue Pins. 5. A Pressure Cooker Used as an Autoclave. 6. Reinforcement for a Davis Crown.	
Medicine and the Biologic Sciences	550
Papular Leukoplakia of the Palate (An Abstract) <i>Clyde L. Cummer, M.D.</i>	560
Dental Research of Tomorrow (An Abstract) <i>Sir Albert Howard, C.I.E.</i>	564
Silver Nitrate Precipitation by the Howe Technique (An Abstract) <i>G. C. Cleary, D.M.D.</i>	566

EDWARD J. RYAN, B.S., D.D.S., Editor
MARIAN ZIERATH, B.S., Assistant Editor

708 Church Street, Evanston, Illinois

Copyright, 1947, by Dental Digest, Inc. See page 526 for subscription data, etc.
The magazine is mailed on the fifteenth of the month of issue.

The Use of the Impactor in EXODONTIA

C. L. MEISTROFF, D.D.S., Richmond, Virginia

DIGEST

The concept is developed that diminution of both psychologic and physical reaction to the greatest possible extent constitutes successful extraction. The Impactor can contribute much toward the attainment of this standard. Its use affords benefits to both the dentist and the patient: Operating is easier for the dentist and the patient suffers less from postextraction reactions.

Advantages in the use of this instrument are cited and the most efficient elevators for completing the extraction are suggested.

Next month Doctor Meistroff will illustrate and comment on the function of the Impactor in socket expansion.

FROM THE operator's point of view, extraction of teeth presents two general classifications of problems—psychologic and physical.

Psychology and Exodontia

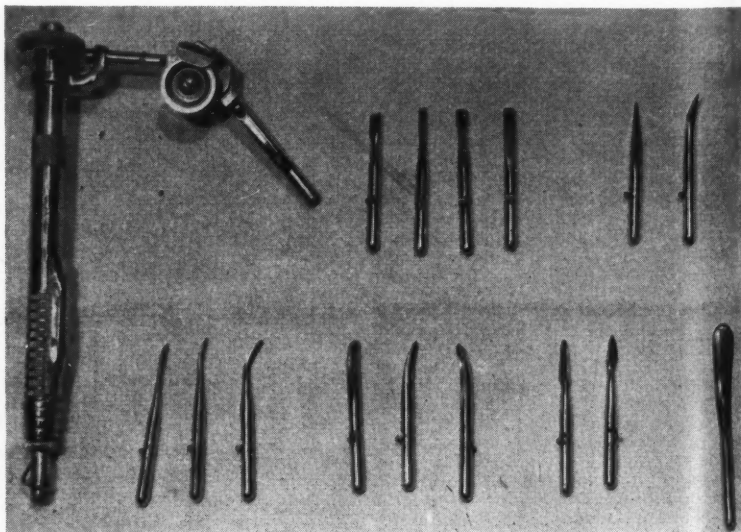
The mental factor to be taken into consideration is that the patient has often started to worry about the extraction long before entering the dental office. Consider the fact, also, that pain has often been endured without letup; various remedies have been tried without success; sleep has been lost; and the patient's nerves are on edge. Every action on the part of the dentist or his assistant is magnified in the mind of the patient as to its possible effect on him. He looks askance at every piece of equipment, glances apprehensively at everything handled or placed within range of his sight or hearing.

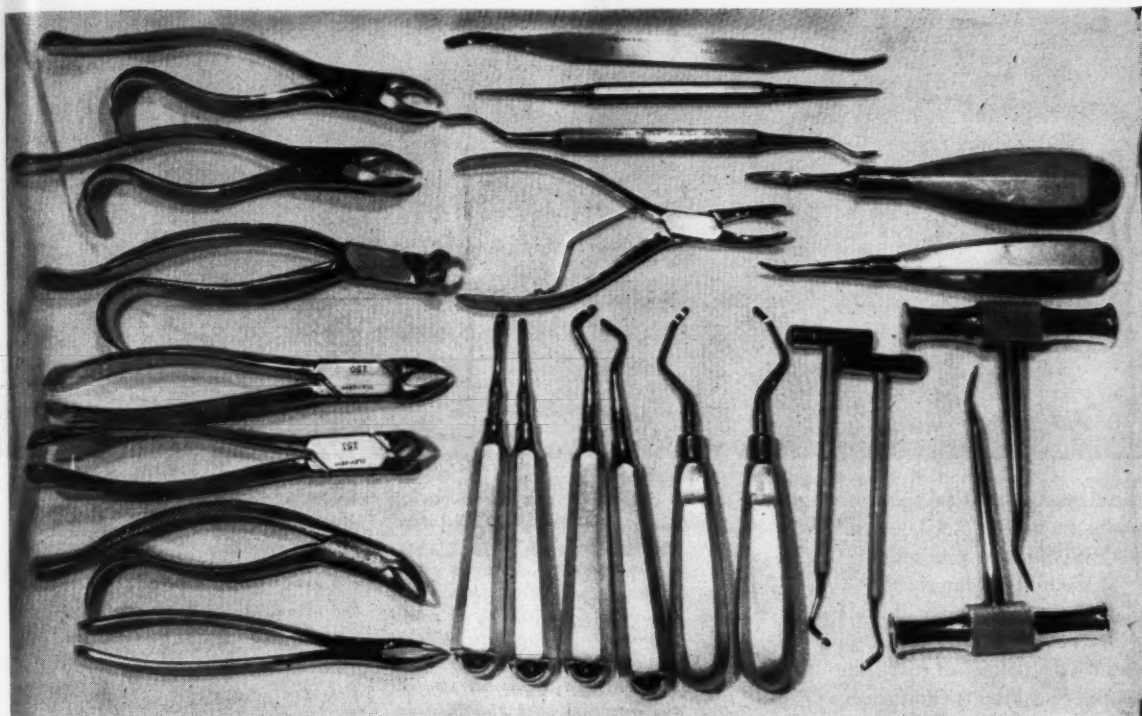
The fewer objects placed before patients, the more calm they remain. Curiosity takes the place of apprehension, the mind deviating from concentration on pain to the question: "Now what next?"

The dentist studying his actions with these considerations in mind is more likely to obtain good cooperation. He avoids as much nervous tension in the patient as possible during preparation, anesthesia, injection, and extraction and can thus perform more efficiently. All surgical, anesthesia, and exodontia instruments are placed behind the patient, nothing on the bracket table before him except, possibly, cotton pliers, a mirror, and some sections of cotton rolls.

The physical factors include the operator's personal knowledge, experience, and ability; also, the number and types of instruments to be used in the extraction. As all instruments are made in a great number of sizes and shapes, using a basic instru-

1. Impactor and its working points. All are available: bibevel chisel for splitting, single bevel for cutting, gouge-shaped chisels, straight and Crane pick points, and the Lecluse type. Large spatula type of point (lower right corner) is for use in third molar areas where the fibrous tissues form a tough aponeurosis and resist straight cutting; this instrument peels it back.





2. Forceps (left): First and second are for upper molars with large crowns and heavy root complement; third is for lower molars with large crowns and a bifurcated root attachment; fourth and fifth are Cryer Universals, solely for small crowned teeth with single or fused roots, upper or lower, anterior or posterior; sixth is a small beaked forceps for crowded lower anteriors; the last forceps is a small Cryer type for loose upper roots and fragments.

Elevators (bottom center, left to right): Large and small root; Potts type; apical.

Top center: Subperiosteal elevator; Terwilliger knife, bone file, rongeur forceps.

Top right: Lecluse elevator; Crane pick.

Note that the only elevators with crossbar handles are the Cryers and the Potts at the lower right.

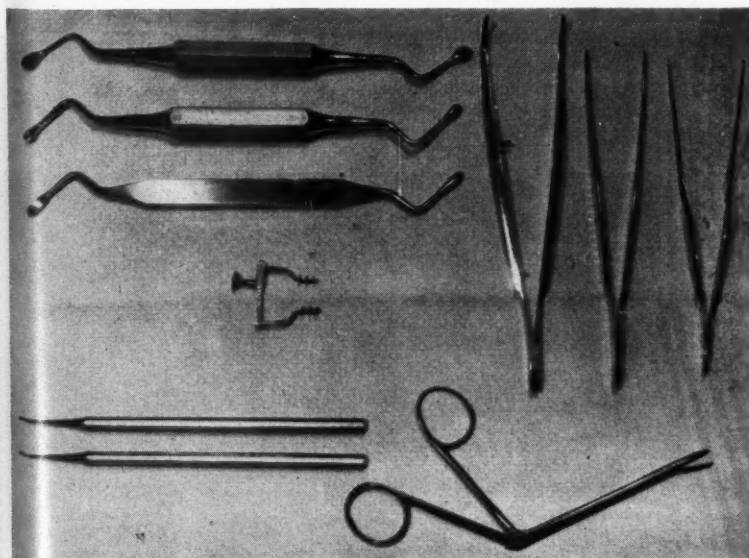
ment instead of a number of instruments will avoid the necessity of groping both mentally and physically for the proper agent. Indecision of this kind will often cause loss of patient confidence.

Advantages of Impactor

In my office routine are used the normal range of forceps, rongeurs, scissors, files and accessory elevators, from which I make my selection of those I feel will be needed during treatment of the case. A "must" on my list of instruments is the Impactor engine-driven mallet.

1. The Impactor has an unlimited range of versatility. This is due to the various interchangeable points that can be inserted and used as needed in the instrument operating head.

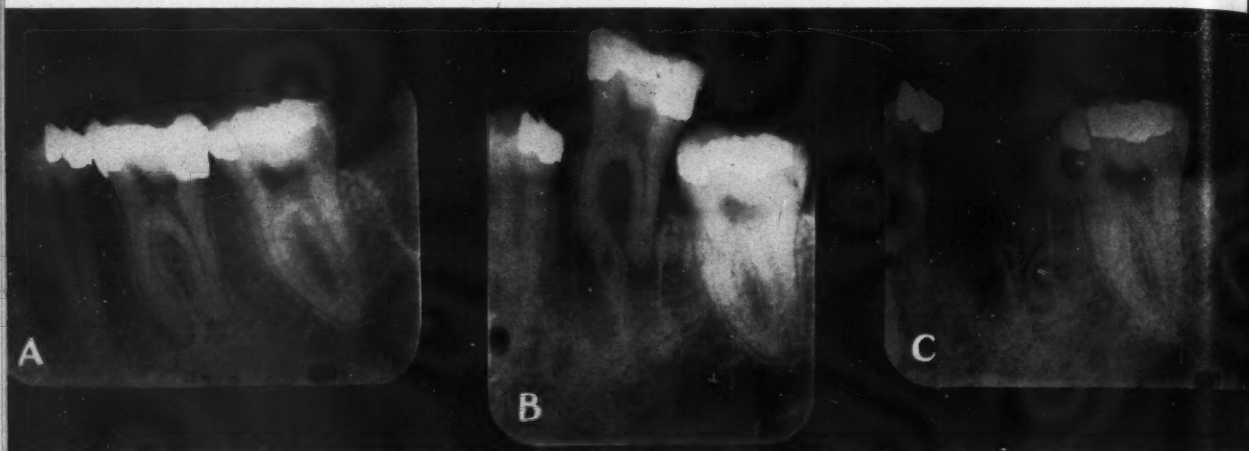
2. Trauma is lessened, due to the controlled impact. The full force of



3. Upper left: curettes. **Middle:** small retractor for use in lower third molar areas. **Lower left:** upper apical elevators.

Upper right: large thumb forceps, medium thumb forceps, bayonet nasal forceps for use in lower third molar areas.

Lower right: Alligator forceps for use in lower third molar areas.



the impact is at the source of origin and not a greater distance away, as in the case of mallet procedure.

3. Visibility is improved.

4. The operator's hands are free.

5. The detrimental psychologic effect on the patient of seeing the mallet and the chisel is eliminated.

6. Extensive hand pressure is not required.

From the observation of cases handled by other clinicians, from the study of case records and publications, and from clinical checkups both in the military service and private practice, I have concluded that the technique avoids two objectionable features of other procedures: (1) extensive bone reduction and trauma, and (2) the need for applying extreme force. Subdivision of the teeth, where indicated, effects the first of these advantages; direct penetration of gouge-type Impactor elevator points which create socket expansion and preloosen the tooth, the second.

The ultimate benefits to the opera-

4. Application of socket expansion technique. Access effects minimal trauma to buccal plate. A, Case as presented for treatment; B, tooth eased out of socket; C, empty alveolus. Socket was expanded by entrance of small gouge-shaped point along entire buccal aspect about one-fourth the way down in alveolus. Crane pick point was directed downward toward the bifurcation to permit forceps to engage.

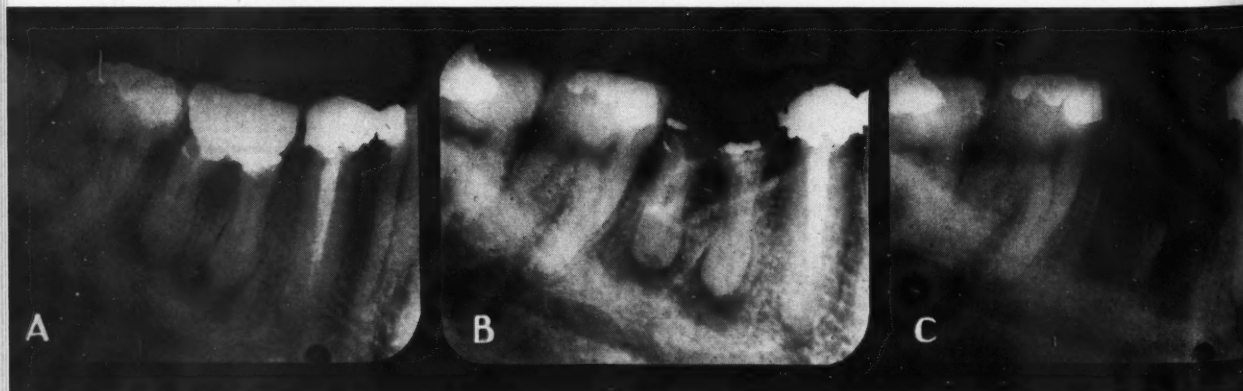
tor and his patient are obvious: Operating is easier, there is less post-extraction reaction, less strain in the temporomandibular joint, and diminution of arthralgia where no trauma was created.

5. Cases illustrating complexity of divergent roots and complication with hypercementosis. Note simplicity of operation: A, sectioning and removal of crown; B, roots eased out; C, alveolus trimmed. (Trimming may not be necessary.) The buccal wall of alveolus is left intact. Crane pick point directed downward and in, toward the bifurcation, sheared off the crown in one entire piece. Roots were removed singly.

Elevators of Choice

Reduction of force elevation in using hand instruments is of primary importance. All of my elevators with the exception of four, therefore, have palm grasp (or bulb type) handles. Two Cryer elevators and two small Pott's type root elevators are the only ones with crossbar handles. The palm grasp type of handle does not permit the use of the same intensity of force as can be obtained with the crossbar type and serves to restrain the natural tendency to use just a little more force, possibly, to complete the extraction. (The importance of this may well be noted, for it is the "little extra" exertion which often causes extensive trauma to both tissue and bone and is sometimes the cause of fracture.)

Cryer crossbar type elevators are used only in the third molar area, after the root section has been loosened, to facilitate removal from the buccal, only the buccal ridge being used as a fulcrum. In no other instance are





6. Case showing socket expansion technique for soft tissue and partial impactions. No initial incision was made; it is often not needed. Tooth was eased out of socket and pericoronal flap slit where coronal tension was

greatest to let crown slip through. Pericoronitis present at first visit was cleared up prior to extraction procedure. A, Case on first visit for treatment; B, partial easing out of socket;

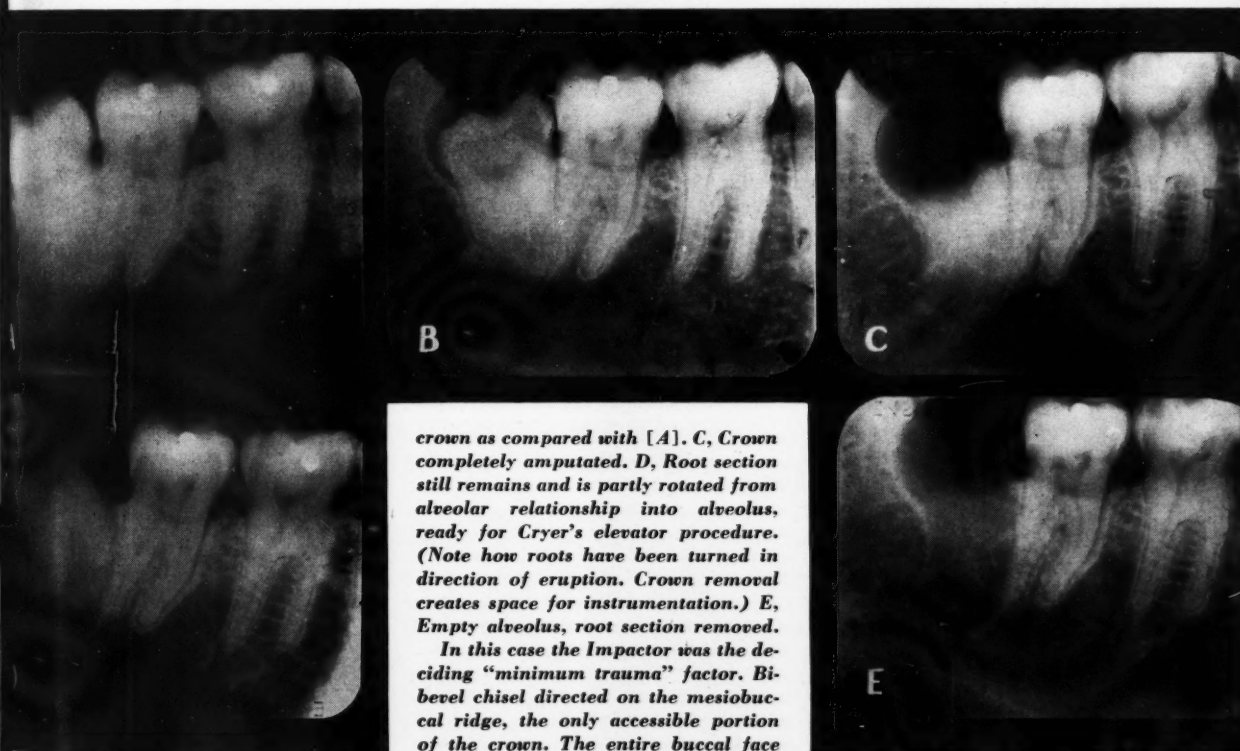
C, empty alveolus. No sutures were necessary as tissues coapted. Gouge-shaped point directed along buccal surface to the distal. Cryer elevator directed toward bifurcation eased out tooth. Ridge was used as fulcrum.

these elevators employed. In the first and second molar areas an elevator such as the Crane pick is used if access can only be had to the root sec-

tion and no other fulcrum than the buccal ridge can be utilized. No part of the mandible is used as a fulcrum unless there is complete and easy ac-

cess to the tooth or section to be removed after intervention with the Impactor.

(Continued on page 546)



crown as compared with [A]. C, Crown completely amputated. D, Root section still remains and is partly rotated from alveolar relationship into alveolus, ready for Cryer's elevator procedure. (Note how roots have been turned in direction of eruption. Crown removal creates space for instrumentation.) E, Empty alveolus, root section removed.

In this case the Impactor was the deciding "minimum trauma" factor. Bi-bevel chisel directed on the mesiobuccal ridge, the only accessible portion of the crown. The entire buccal face was split off from mesial to distal and along the occlusal, the coronal portion of the pulp canal thus being exposed. Crane pick directed to this point split off remainder of the crown. Further guidance of Crane pick and small

gouge-shaped points down toward the bifurcation permitted a hold for alveolar rotation; Cryer elevator resting on the ridge removed root section from alveolus.

7. Complicated case in which impactor intervention is of first importance. A, Impacted lower right third molar, erupting distally. B, First step in sectioning crown. (Note radiolucency of

A Report of

DENTAL REHABILITATION

GEORGE MATULA, D.D.S., Chicago

DIGEST

The criteria of successful mouth rehabilitation extend beyond the mere consideration of mechanics and materials. Establishing and maintaining a healthy foundation for natural or artificial dentures or for teeth supporting a bridge are the true goals; and the nearest possible approach to them within the biologic limitations of the patient is the measure of their achievement.

Involved in the accomplishment of these objectives are: the recognition and eradication of periodontal disease; the elimination of trauma; the re-establishment of vertical dimension; and most important of all, perhaps, training the patient in mouth care, educating him in dietary practices, and gaining his cooperation in correcting and maintaining oral and general health.

To demonstrate an extensive rehabilitation program for a mutilated mouth a case report of a general procedure is presented.

COMPLETE MOUTH rehabilitation should form the basis of every dental practice. Rehabilitation might mean the relatively common restoring of the anatomy of a tooth to harmonize with its proximating members and with the teeth of the opposing arch; or, it might mean the reconstructing of a mutilated mouth through the application of many of the subjects covered in a dental curriculum.

Inasmuch as there is a certain sequence in the procedure of mouth reconstruction that can be applied to most patients, the report of a case is submitted here. The patient involved was an executive, aged 51, subjected to considerable nervous strain during the preceding ten years. His medical history included these symptoms suggestive of pathologic dental conditions:

1. Dull pain ramifying through back part of head and neck (of six years' duration).
2. Arthritic pain in right shoulder (of eight to nine years' duration).
3. Both pains increased before rainy weather.

Laboratory analysis was negative and medical treatment chiefly palliative.

Dental Examination

Clinical—1. Missing teeth: upper right second and third molars; upper left first bicuspid and all molars; lower second and third molars.

2. Extensive abrasion of remaining teeth, particularly upper right and left cuspids (Fig. 1) resulting in the loss of vertical dimension and the creation of traumatic occlusion.

3. Bluish red color of gingivae; suppuration around several teeth from periodontal pockets.

Roentgenographic — Pathologic changes in evidence were:

1. Upper right: first molar, extensive resorption of distal part of alveolar bone; second bicuspid, pulpless with rarefied area at apex; first bicuspid, distal caries; central, deep mesial pocket.

2. Upper left: central, smaller mesial pocket; second bicuspid, mesial cavity and bone resorption.

3. Lower right: first molar, pulpless with periapical rarefaction of distal root and bone resorption; second and first bicuspid, bone resorption.

4. Lower left: first and second bicuspid and first molar, bone resorption.

Electropulp Test — Response was within normal limits.

Treatment Plan

Prophylaxis — Thorough subgingival scaling is extremely important; but in deep pockets, I find it virtually impossible to do this adequately. Resection of all pockets being necessary to eliminate the focus of infection, the scaling was completed during the operation in this case.

Instruction of Patient—The use of a toothbrush and supplementary interdental stimulation were demonstrated and the point stressed that the future of all the remaining teeth depended on this care. Instructions regarding diet were also given.

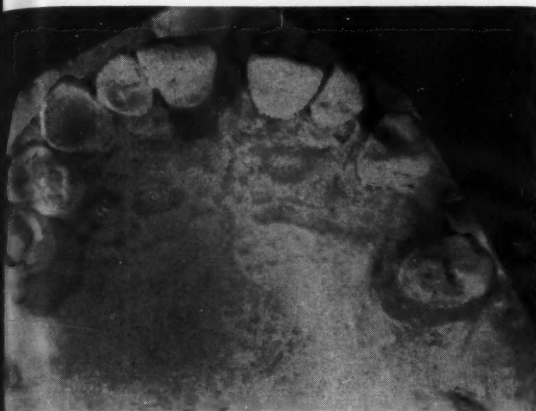
Extraction of Teeth—The following could not be restored and were extracted:

1. Upper right second bicuspid (after new occlusal plane had been established).

2. Upper right first molar.

3. Lower right first molar.

Resection of Periodontal Pockets —The radio knife was used for electrosurgical resection of these teeth: upper right central; upper left central and second bicuspid; lower right second and first bicuspid; lower left



1. Model of upper teeth showing deep abrasions.

first and second bicusps and first molar.

1. Resected areas were packed with cotton rope saturated with a paste mixture of equal parts of zinc oxide, powdered resin, eugenol and olive oil.

2. Superoxol was applied to gingivae after the removal of packing.

3. A mixture of sodium fluoride, kaolin, and glycerine in equal parts was applied to the exposed roots to relieve sensitiveness.

Mechanical Phase of Reconstruction—1. Transitional restoration of vertical dimension with plastic splint; permanent restoration with hard gold

3. Occlusal view of template on model with centric occlusion registered in modeling compound.

platinum alloy castings of upper right first bicuspid and cuspid and a fixed bridge replacing the upper left first bicuspid, the cuspid and second bicuspid being used as abutments.

2. Replacement of upper and lower posterior teeth with combination gold-platinum alloy and plastic partial dentures using precision attachments.

2. Centric bite in modeling compound at established new vertical dimension.

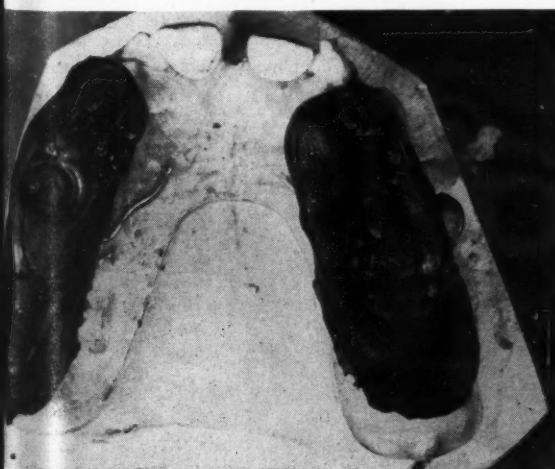
Increasing Vertical Dimension

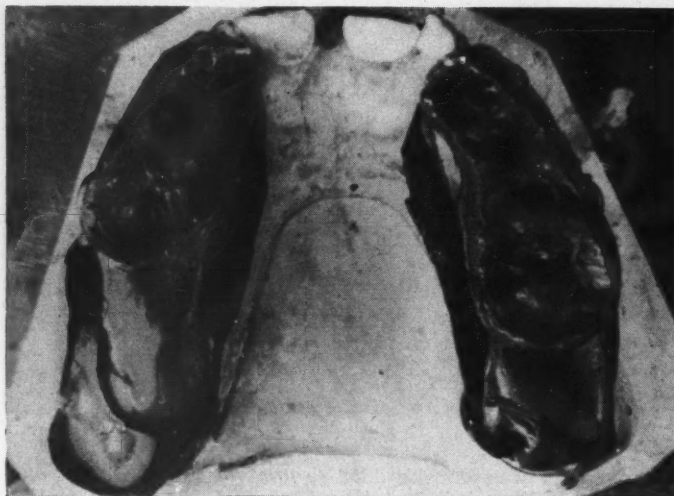
A plastic splint increases the vertical dimension (in this case, the upper jaw only).



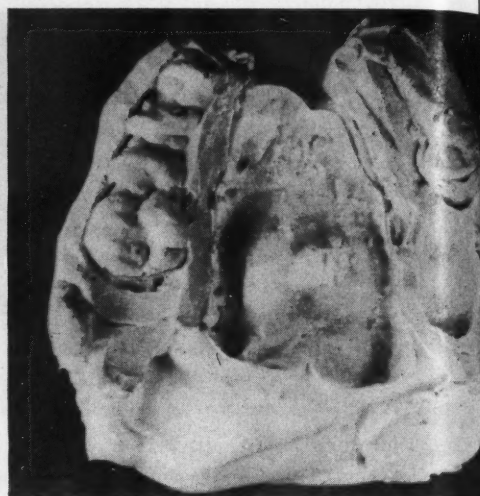
5. Left side view of the process of occlusal plane registration in "tacky wax."

4. Below: Occlusal trim of modeling compound leaving intact only the registration of the central grooves of lower teeth.

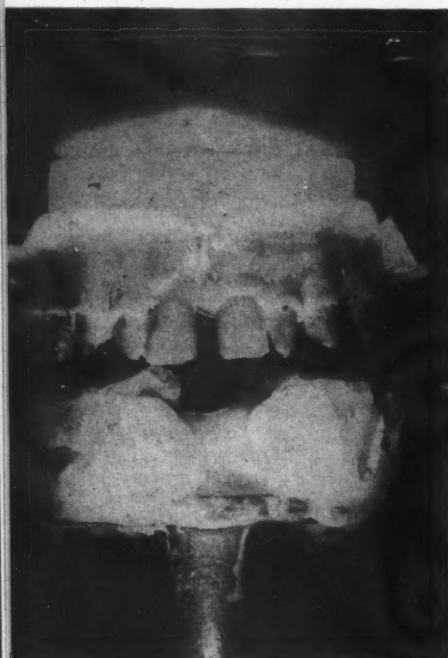




6. Occlusal view of built-up template showing registration of mandibular movements in "tacky wax."



7. Occlusal view of occlusal path made by painting stone into "tacky wax" registration.



9. Upper model articulated on plain line articulator with cuspal path developed on template poured in stone.

Construction of Acrylic Template
—(A template is the rigid foundation on which the new occlusal plane is developed.)

1. Survey upper model for wire clasps and severe undercuts which are filled with either wax or modeling clay.

2. Duplicate model.

3. Make wire clasps for upper right and left second bicusps with only the buccal and proximal arms, no occlusal rests, and lug extending on to the palate.

4. Tin-foil duplicate model (other separating mediums could be used but are not as dependable). Place clasp wire in position and wax up, using 20-gauge wax over the lingual and occlusal surfaces of the posterior teeth and lingual incisal surface of the cuspids; baseplate wax over the palate and edentulous areas.

5. Process in clear plastic.

6. Test on original model and in mouth; it must seat passively on occlusal surfaces and be short of the desired bite opening.

Addition of Cuspal Path—The establishment of the cuspal path¹ on

¹The development of the cuspal path presented here is an adaptation of Doctor Fred S. Meyer's technique. It is based on the theory that only in the mouth can true registration of all the various excursions of the mandible be obtained, that there is no articulating instrument built which is capable of duplicating these infinite jaw movements.

the acrylic template completes the bite splint. (A bite splint could be defined as a temporary appliance used to produce and maintain a new, predetermined and balanced relationship of the jaws in occlusion.)

1. Sear high-fusing modeling compound on occlusal surface of template to the approximate thickness (preferably thicker) desired for opening the bite.

2. Heat occlusal surface of modeling compound, place in mouth, and have patient bite in centric relation (Fig. 2). Check for lip contour, freeway space, and other factors determining the extent of bite opening. Add to or remove modeling compound until these factors are satisfactorily met.

3. Remove from mouth, cool, and trim occlusal surface of modeling compound leaving only the marking



8. Right side view of upper model articulated on plain line articulator with cuspal path developed on template poured in stone.



10. Occlusal view of splint in place.



11. Left side view of completed splint in place.



12. Right side view of completed splint in place.

of the central grooves of the lower teeth (Figs. 3 and 4).

4. Dry compound thoroughly and add soft adhering wax (it can now be purchased in sheet form as "tacky wax") to the occlusal surface. Make sure there is a complete seal between the compound and the wax.

5. Place in mouth and have patient bite in centric; then produce the following mandibular movements (Fig. 5). (The extent of the movements equals approximately one-half the width of the central incisor.)

- a) Centric to protrusive and open.
- b) Centric to right or left lateral and open.

c) Centric to opposite side and open.

d) Check cuspal path registration for any wax separation or insufficiency; correct and repeat movements until there remains only a very fine layer of wax over the center bead of modeling compound (Fig. 6).

e) Place on model and paint the resultant cuspal path with artificial stone, being careful to eliminate any air bubbles (Fig. 7).

f) Articulate on a plain line articulator, which has a definite stop (Figs. 8 and 9). (Make sure the stone cast is keyed and vaselined so that it

can be easily removed and again re-seated after curing.)

g) Remove modeling compound and wax from plastic template; wax in teeth (plastic) in edentulous areas; and if the occlusal wax registration is not distorted, retain it; if there is any distortion, wax in a new path to the stone negative.

h) Remove upper model from articulator, preferably tin-foil the keyed part of model, flask, and cure to the template.

i) Return to articulator and check for any change in occlusion using prussian aqueous blue dye on stone path.



13.
Left: Occlusal view of models of completed mouth.



14.
Right: Occlusal view of models of original mouth.



15. Anterior view of models of completed mouth.



16. Left side view of models of completed mouth.



17. Right side view of models of completed mouth.

j) Finish and place in mouth, having patient use it for a month or two to get accustomed to the new vertical dimensions (Figs. 10, 11, and 12).

Preservation of New Vertical Dimension

In order to preserve the newly established vertical dimension and to establish occlusal anatomy in the natural teeth in harmony with the new occlusal plane, the following technique is used:

1. Build up upper right cuspid.
 - a) Prepare tooth for three-quarter crown.
 - b) Cut off the section of the splint covering the right cuspid and replace in mouth.
 - c) Fit "Wagner matrix" band to the tooth, fill with hard inlay wax, and force over the tooth.
 - d) Have patient close in centric, then in protrusive and lateral movements as when developing the cuspal path for the splint.
 - e) Finish carving the pattern, sprue, and draw.
 - f) Invest and cast in hard gold-platinum alloy.
 - g) Inasmuch as this tooth is not being used for an attachment, the casting is finished and cemented.
2. Build up upper right first bicuspid. Make two castings (one to be used as a temporary protection for the tooth during the construction of the partial denture).
 - a) Prepare tooth for three-quarter crown.
 - b) Follow the subsequent steps given for upper right cuspid but

make a distal boxing in the preparation to receive the female section of the precision attachment for the partial denture. The preparations of the boxings in upper right first bicuspid and upper left second bicuspid are synchronized by cutting out the boxings on the study or duplicate model with the aid of a surveyor and transferring these preparations to the mouth by means of a template.

c) Set casting temporarily with chlora-percha.

3. Build up upper left cuspid with a three-quarter crown (two castings). Follow the same procedure as for the upper right cuspid but set with chlora-percha.

4. Build up the upper right second bicuspid with a three-quarter crown (two castings). Follow the same procedure as for the upper right first bicuspid.

5. With castings on upper left cuspid and upper left second bicuspid, take impressions for the construction of a fixed bridge, replacing the first bicuspid; place duplicate castings; extract upper right second bicuspid.

6. Take plaster impressions of upper jaw with upper right first bicuspid casting and upper left fixed bridge in place. Pour tooth section of impression in low-fusing metal and the balance in stone. Seat duplicate castings for upper right first bicuspid, upper left cuspid, and upper left second bicuspid with chlora-percha.

7. Construct upper partial denture with precision attachments; cement the upper right first bicuspid casting and the upper left bridge.

8. Construct lower precision attach-

ment partial denture against the upper.

Conclusion

This case was completed in November 1943 (Figs. 13, 14, 15, 16, and 17). The neck and shoulder pains disappeared after the second area of periodontal infection was resected; namely, the lower left first and second bicuspid and the first molar gingivae. The pains have not recurred. The health of the investing tissues has been retained through the cooperation of the patient.

The dentist confronted with the need for complete mouth rehabilitation should be prepared not only to resort to the usual operative procedures—extractions and prosthetic replacements; but also to recognize and eradicate periodontal diseases, eliminate trauma, re-establish vertical dimension, and to resort to orthodontic and surgical treatment to produce the balance of the mouth so necessary for the health of the patient. (When the general practitioner is *not* prepared to render some phases of this service, the need of which he recognizes, he should, of course, consult a specialist or recommend his services.) He must train the patient in mouth care, check his diet, and when necessary correct it with the aid of a physician. In order to gain the patient's cooperation, he must impress upon him the importance of a healthy mouth in promoting health in the rest of the body and the converse.

105 West Adams Street.

SKIN DISEASES—Frequently Affecting the Hands of Dentists

LESTER HOLLANDER, M. D., Pittsburgh*

DIGEST

Dentists are frequently handicapped by diseases of the skin of the hands. Water and friction from hand-scrubbing are probably most responsible for these conditions.

The frequent use of chlorinated water alone often plays a damaging role in hand care. When the use of such other chemicals as soaps, antiseptics, and even hand lotions is combined with the use of water, a deleterious effect on many dentists' hands at some time is assured. Chemical action causes "chemical dermatitis."

Hands which escape disease-causing friction and chemicals may be vulnerable to other substances contacted in practice. Causative agents of allergic skin reactions are numerous, the most prominent being a local anesthetic of the -caine group.

Still another skin disease to which a dentist's hands are subject is dermatitis from infection. This is most frequently caused by a combination of staphylococci and streptococci and is contracted from a patient's mouth.

The avoidance of roentgen ray dermatitis is more within the power of the dentist than is the prevention of any other dermatitis. It requires that in taking roentgenograms the dentist refrain from exposing his hands to the x-ray.

The most common types of

dermatitis are described and their causes and treatment and the results of their neglect discussed.

ALMOST ANY disease of the skin of the hands will handicap a dentist, for his practice necessitates frequent washing of his hands and the handling of chemicals, plasters, instruments, and other materials; also, much of his own protection against infection depends on the unbroken continuity of the skin of his hands. Some diseases result directly from clinical practice and laboratory procedures; others though not incurred in the dentist's profession, are aggravated by the demands of the latter.

Friction Dermatitis

A simple friction damage may present itself as a full-fledged skin disease in the form of a pair of sore, rough, cracked, red, painful hands the condition of which becomes aggravated by elemental damage of wind, cold, or exposure of any kind. The skin on the back of the hands, being much thinner and more sensitive than that of the palms, is more frequently and more painfully the site affected. The commonest example of friction dermatitis is the chapped hand.

Causes—Probably the most common cause of skin diseases of dentists' hands is friction occasioned by frequent scrubbing. The almost imperceptible but multitudinous abrasions of the epidermis, produced by the scraping action of the bristles of the hand brush, may open the way for calamitous skin damage unless rapidly repaired. Such abrasions permit irritants present in water, soap, chem-

icals, medicaments, abrasives and other substances to act most advantageously and thus produce an inflammation of the skin—dermatitis. Inasmuch as a damaged skin is unable to resist ever-present pathogenic microorganisms, they, too, participate in producing detrimental annoyances by attacking the barren tissue cells which have lost, through friction damage, their horny cutaneous armor.

Treatment—Uncomplicated by a superimposed chemical or by microbial damage, friction dermatitis in its early phases yields readily to the application of an emolient, protective type of paste. Such a topical medication counteracts the harsh and abrasive damage produced by mechanical irritation. It is important, however, to remember that frequent attacks of friction dermatitis will lead ultimately to the development of a more tenacious, chronic form of dermatitis which will be more recalcitrant to treatment.

Treatment of friction dermatitis consists of the following:

1. Elimination of mechanical damage by discontinuing the abrasive action of brushes, rough towels, and even the use of soap and water.
2. Washing the hands with a warmable, clear skin oil.
3. Drying the hands with a soft cotton towel, a patting action, and no rubbing.
4. Avoidance of elemental damage by wearing soft, pliable, thin gloves outdoors. A suedelike fabric glove is the best.
5. Spreading a protective paste, preferably one which can be warmed, over the hands before retiring and wearing a suitable bandage or thin cotton gloves.

*Medical Director, Pittsburgh Skin and Cancer Foundation.

6. Addition of from 1 to 2 per cent of lactic acid to the protective paste if the dermatitis is severe and painful.

Chemical Dermatitis

Chemical dermatitis usually makes its first appearance as a fine, pinpoint-sized, vesicular (blistery) eruption on the finger, on the back of the hands, or on the interdigital areas. At first there is but slight itching and tingling to cause annoyance. Periodic remissions are followed by further attacks, each of which lasts longer, covers more skin surface, and presents a more aggravated state than previous attacks. Finally, no remissions occur and the dermatitis persists, becoming more strongly and more permanently imbedded. The skin smarts from this unyielding, inflammatory reaction; it becomes thicker, darker, and tougher and loses its elasticity and supple texture. Motion causes pain and discomfort. Shallow cracks become deeper, ready to receive a secondary invasion of pathogenic bacteria, and thus is the dentist partly, if not totally, incapacitated.

Causes—Soaps, antiseptics, alkalies, acids, hand lotions, drying agents, and water alone or in combination may be responsible for the development of a dermatitis of the hands; and inasmuch as the condition results directly from a deleterious chemical action, we designate it as a "chemical dermatitis."

It is not difficult to fathom the role of chemical substances in most of the above-named substances; but the concept that water alone may cause a chemical dermatitis needs more than a cursory emphasis. For we are apt to forget that many communities depend on chlorination to counteract the health-endangering pollution of their water supply. This diluted, chlorinated sewage, erroneously called water, in many instances carries sufficient concentration of chlorine, sulfur, or other disinfectants to cause chemical damage.

Although rarely is the searing role of chlorinated water remembered and discussed in the consideration of a chemical dermatitis, as a matter of practical experience, it is much more

common than all other chemical causes combined.

Treatment—1. Elimination of all of the above-named irritants.

2. No substitution of soapless detergents used with water.

3. Cleansing with a heatable, mild skin oil at a comfortable temperature. Removal of oil with a soft cotton towel.

4. Application of a small quantity of lactic acid or a bentonite-based hydrophilic ointment containing 1 or 2 per cent of boric acid to the affected areas as long as any evidence of inflammation exists. Use of a dressing of gauze, bandaged in place.

5. Renewal of dressings every twenty-four hours.

a) The adherent paste may be washed off with a heatable, mild skin oil.

b) The hydrophilic paste should be cleaned off with distilled water.

Secondary pyogenic infection is recognizable by the presence of various-sized groups or scattered pustules, especially in the phalangeal hair follicles. Small amounts of sulfathiazole powder are applied to such pustules with a water-wet cotton applicator. After this the dressing is applied as described above.

New Protective Paste—A new protective paste was recently perfected. It is used warm at a comfortable temperature with the preliminary use of the warmable, mild skin oil. A new and more effective form of treatment is thus provided. Such treatment should be given an extended trial. Days may be needed before the salutary effect is brought about; but the method is a great improvement over the usual treatment because a warm protective paste is soft enough to fully envelop the areas of a dermatitis and, as the protective paste cools, it hardens into a pliable splint, which is also desirable.

Should improvement prove to be slow, I employ magnesium iontophoresis twice a week using ten milliamperes to activate a galvanic bath which contains about a gallon or two of 1/10 to 1 per cent of magnesium sulfate. Each hand is immersed in a separate basin. The positive and the negative leads are alternately placed

into the basins for fifteen-minute periods. Thus, the total treatment lasts half an hour. When it is completed, a protective paste dressing is applied.

Meticulously carried out, the above recommendations will yield excellent results.

Allergic Dermatitis

Allergy has been defined as a reaction of the skin and the mucous membrane different from the normal. Allergic reactions of the skin to almost any substance may occur. Plants, plant juices, lacquers, trees, tree saps, waxes, resins, rosins, furs, leather, tanning agents, dander, rubber, latex, oils, chemical compounds of all kinds, and synthetics seem to predominate as sensitizing agents.

Sensitivity is a locally expressed phenomenon. Rarely, it remains a local reaction; usually, however, sensitivity spreads to the entire integumental structure. This general involvement is of practical importance because the recognition of sensitizing substances depends on the ability of the integument to reproduce the reaction of sensitivity, when the offending substance is experimentally applied to it. In the rather rare instances in which sensitivity is a local phenomenon, the test experiments must be carried on at the particular sites affected.

The detection of an offending agent belonging to a daily contacted substance is one of the most difficult forms of diagnosis. This is especially true of allergic disturbances of the hands. One must never lose sight of the fact that a dentist, too, may be sensitive to something at home, at the golf club, in the gymnasium or Turkish bath, in addition to one or more of the many different items in his dental office.

Report of a Case—A dentist presents a blister-studded area of the finger tips of the left index and middle fingers (Fig. 1). He states that this dermatitis has annoyed him for the past two years, that the disease has been diagnosed as "dermatophytosis" or "athlete's foot infection." He recites that when he was at a convention and also when he was away on a fishing trip, his fingers seemed to im-



1. *An advanced -caine dermatitis. The patch tests on the arm are strongly positive.*

prove rather quickly; when he was bedfast as a result of a severe influenza infection last winter and had to remain at home for three weeks, his fingers healed completely. These episodes of freedom from the otherwise persistent vesicular dermatitis were due to his being under less tension at the time while during his illness the high temperature killed the fungi causing the dermatitis.

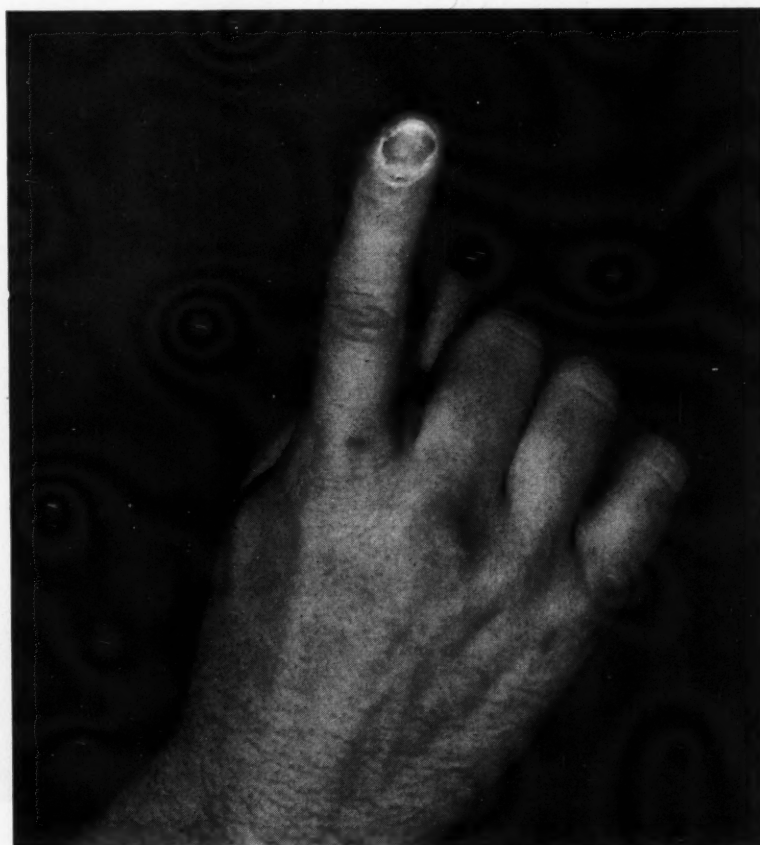
Shortly after he returned to work, these annoying water blisters appeared and soon afterward the skin of the finger tips became swollen, red, and caused annoyance by itching. In the last few months deep splits appeared. The nail folds became swollen and separated at the point of the half moon. No doubt being very busy and physically exhausted had contributed greatly to this inflammatory disease.

Such a recital as this is not only not unusual; it is given repeatedly. Misconceptions of dermal pathologic processes induced by faulty diagnosis are indicated. Persistent, definitely patterned dermatitis of the type described is frequently the result of a sensitivity to some substance which the dentist contacts in his daily occupation. In the patient just described the particular location of the derma-

titis was pathognomonic evidence that the sensitizing agent was one of synthetic local anesthetics and that the contact occurred during the time that the anesthetic was injected. The

phalanges affected acted as either guides or as mouth retractors.

Local Anesthetics as Causative Agents—Of all the sensitizing agents, the -caine group most often occasions



2. *An early and acute vesicular dermatitis on the top of the left index finger of a dentist.*

severe difficulty (Figs. 2 and 3). To cure the dermatitis, it is essential that the use of the -caines be stopped; as yet, however, we have no adequate substitute to take their place.

It must be pointed out that once a procaine dermatitis is established, it acts like all other sensitivities; that is, the shortest contact produces a dermatitis and thus it happens that soon the right hand and the face, which may receive a stray spray, become the sites of a dermatitis. Should the condition persist for a long time without a respite, the skin will thicken and darken, the fissures deepen, the nail folds become more and more angry, and the paronychia more painful. The picture may readily change to make the condition less easy to recognize.

Diagnostic Measures—Investment substances, synthetics of all kinds, chemicals, and pharmaceuticals should all be suspect when a persistent dermatitis of the hands appears. Besides a carefully conducted inquiry as to the substance most likely to have come in contact with the spot or area of the hand affected, there are other points to bear in mind—the time of the appearance of the dermatitis, the time of the most acute symptom presentation, any periodicity, and any marked episodal exacerbation which may be correlated with the attack.

(The sensitizing agent, may, of course, be something totally foreign to the office or the dental laboratory. It may be at home, at the club, at the bowling alley, or in the garden; for in addition to the sensitizing hazards of his profession, the dentist may also pay a penalty for a hobby which involves the handling of a sensitizing agent.)

The most important single diagnostic aid in the determination of a particular sensitivity is the employment of the so-called "patch test." Suspected substances are applied to the skin of the arm, forearm or the flexor surfaces of the legs; they are left in place for forty-eight hours, an adhesive tape dressing being used; then they are removed and the presence of any inflammation of the skin is noted. In the majority of cases the skin test serves to identify the offending agent because sensitivity, as a rule, involves the entire surface of the epidermis. In the relatively few instances in which sensitivity is a *local* phenomenon, the patch-testing sites must be in those areas in which the dermatitis previously existed.

Localized Sensitivity—I remember an instance of handicapping dermatitis of the tips of the fingers of a young and promising dentist which disqualified him for weeks at a time from carrying on his work. He sought

advice in three large medical centers. Each time his fingers healed, though the diagnosis and the subsequent treatments were diametrically opposed to one another. Patch testing proved to be of no help. The fact that his finger tips healed when he was away from his work and that the dermatitis reappeared shortly after he returned to his practice, made me feel certain that in spite of the negative patch testing, his dermatitis was caused by a sensitivity related to his professional activity.

Patch testing on the finger tips (after the dermatitis had completely cleared up) proved that the offending agent was an investment substance. The diagnostic measures were time-consuming and the results discouraging, but ultimately the diagnosis justified the care exercised: It meant that by changing to the practice of exodontia, the patient continued the practice of dentistry without the inconvenience of a dermatitis.

Other Sensitizing Agents in Dental Practice—Topical anesthetics, chromic acid, and chrome-containing mercurials, eugenol, and oil of cloves are some of the other more frequently encountered sensitizing agents. I have added dermatitis caused by lipstick worn by patients to the ever-growing list of substances causing allergic skin reactions. All were recog-



3. Positive patch-test reaction to the -caine group. Same case as in Figure 2.

nized by the following critical points:

1. Frequent contacts with the offending substance.
2. Specific localization of the dermatitis at the site of contact.
3. Rapid disappearance of the dermatitis when the offending agent was eliminated.
4. Persistence of the eruption in spite of treatment as long as the offending agent was contacted.
5. Relief of intense, periodic itching by immersion of the hand in hot water.

Treatment consists of the following:

1. Elimination of contact with the offending substance.
2. Elimination of contact with similar substances. (This is extremely important in the so-called -caine dermatitis; not only mono-, but all the other -caines must be eliminated.)
3. The application of a protective paste.
4. The use of rubber gloves while operating if the offending agent is procaine. (One must be on the lookout for rubber sensitivity, also.)

As far as I know there are no injections which can be used to attempt desensitization.

Dermatitis from Infection

Dermatitis may be the result of infection. The most frequently occurring pathogenic, microbial infection is caused by staphylococci or streptococci or, what is much more likely, a combination of the two. (These two microorganisms act as fellow travelers so commonly that a pure culture of one or the other is rarely found.) The source from which such an infection is most frequently contracted is a patient's mouth.

Man is a motile island in a sea of atmosphere carrying his own fauna and flora in the form of microbes. These include a great variety but the staphylococci and streptococci predominate. The skin and mucous membranes harbor billions of the microorganisms. Myriads are disposed of, during the process of natural rhythmic exfoliation, as the horny layer of the cutaneous and mucous membrane separates and is shed. Shedding and other forms of defense keep these parasitic boarders from causing

too much havoc. Also, there develops a mutual resistance between the representatives of these pyogenic organisms and the person so that his own variety of streptococcus or staphylococcus is not as harmful to him as some one else's microbe of the same general category.

Infection in the oral cavity is frequent and communicable not only to another mouth but also to the hands of the professional man or woman who needs to come in contact with it.

1. Paronychia. One of the frequent forms of this type of infection occurs at the nail fold and gives rise to the disease, paronychia. This manifests itself as an inflamed, painful suppuration which surrounds the plate of the nail. It is a chronic, treatment-resistant, infective disease which presents periodic exacerbations, painful episodes, interference with work, play, washing, and other hand care. Hang nails, carelessness at manicuring, jags or any kind of cuts or penetrating injuries, caused by instruments, teeth, or the hand brush may leave an avenue open for the entrance of an infection. At times this may involve deeper structures and a periostitis or a felon may be the result.

2. Folliculitis. Well-defined, suppurating pustules at the site of phalangeal hair follicles constitute another form of pyogenic microbial infection. It is painful and unless controlled in its incipiency spreads to other hair follicles and may become chronic. Scrupulous cleanliness is the keynote of prevention and treatment.

3. Impetigo contagiosa. Occasionally, without the slightest evidence of a break in the continuity of the skin, an area of dermatitis appears. The epidermis sloughs off, there is a seropurulent fluid which seeps from it. The skin near it becomes plastered with a drying exudate, crusts form and cover not only the inflamed area but also the surrounding skin. This is an impetigenous dermatitis, or an impetigo contagiosa. It may develop *per se* or it may be engrafted on a previously existing, inflamed skin surface.

In my experience such an infection is not infrequently contracted from cold sores, mouth angle sores (the so-

called *perleche*). At times the infection affects all of the cutaneous layers and is associated with a rise in temperature, a rise in the white cell content of the blood, and the development of a highly inflamed skin surface. I have treated several such infections; they are examples of St. Anthony's fire or erysipelas and are of serious portent.

When a dermatitis exists and infection sets in, we speak of it as a secondary pyoderma. Such a complication increases the problems concerned in the treatment of the primary disease.

Treatment—Prophylaxis is the keynote of defense against pyogenic infections of the hand. This is best accomplished by thorough but not necessarily rough soap-and-water washing as soon as possible after treating a patient. At times a mild antiseptic may be of value. However, it must be remembered that frequent use of antiseptics leads to abuse of the epidermal covering of the hands and defeats the purpose of the cleansing procedure.

The severity of an infective dermatitis or folliculitis determines treatment of the condition. Recently, more and more reliance is being justifiably placed on the combined use of x-ray locally and the enteric use of the sulfonamides alone or combined with the administration of penicillin.

Roentgen Ray Dermatitis

Frequent short exposures of the skin to x-ray may cause serious damage in later years; it is, therefore, of grave importance to the dentist that he realize the dangers he is exposed to in taking x-ray pictures of the mouth. Many dentists are paying the penalty of the careless habit of holding the films in the patient's mouth while the pictures are being taken. Although the exposures are short and seem infinitesimal, the close proximity of the x-ray tube and the frequent injuries caused by these short but highly penetrating rays cause ultimate changes which make their appearance two or three years or even longer after such careless handling of this potent energy.

At first the changes which appear on the skin are those of any low grade

chronic, persistent dermatitis. Later, the skin begins to lose its elasticity and softness. It appears senile, shriveled, and atrophic. Small superficial blood vessels, the so-called telangiectasia, will sprout here and there, a dark-pigmented, frecklelike, keratotic mass will appear. Later, these keratoses become more pronounced, rough, and warty. They split away from the surrounding skin, producing trenchlike fissures around them. Usually, after several years, these will break down sufficiently to form small, rounded, or longitudinal ulcers which are margined by neoplastic nodules. These nodules present a raised, uneven sloughing base and a neoplastic border. Microscopic examination confirms the fact that such development is a neoplasm, an epidermoid carcinoma which necessitates surgical removal.

Application of Alva-Jel either in the form of an ointment or as a gly-

erite; excision of the neoplasm, and subsequent skin grafting in the hands of an experienced plaster surgeon frequently obviate more drastic surgical intervention.

Vesicular Systemic Dermatitis

This is a chronic form of erythema multiforme. So much attention has been paid the external causes of dermatitis that a large group of vesicular dermatitides, caused by ingestion of drugs or foods, especially the former, has been neglected, if not completely forgotten.

Summary

These ten precautions and suggestions might be termed "A Decalogue of Hand Care for the Dentist:"

1. Keep your hands clean.
2. Keep the skin of your hands supple.
3. Avoid using strong antiseptics.

4. Manicure your own hands, with sterile instruments of your own.

5. Any cut or penetrating wound calls for immediate and proper surgical care in order to avoid infection.

6. Any dermatitis, except when it is blatantly an acute infection, needs to be investigated from the standpoint of sensitivity.

7. Dermatophytosis or athlete's foot infection of the hands is so rare as to call for vigilance in case of such a diagnosis. Usually it is a chemical or allergic dermatitis.

8. Chlorinated city water alone may be the cause of a chemical dermatitis.

9. Roentgen ray picture-taking is a dangerous procedure. Take heed: Keep far away from the x-ray tube.

10. A good protective paste is the solution of hand care for the dentist.

631 Jenkins Building.

The Use of the Impactor in Exodontia

(Continued from page 535)

Comments

In the cases illustrated, the complete sequence of trauma consisted of only: incision on the buccal aspect of the ridge, extending from the inner angle of the mandible to the mesio-

buccal portion of the second molar; sectioning of the crown; and removal of the roots. No sutures were necessary as tissues coapted.

Cryer's elevator was used only when the roots were released from their alveolar attachment by the Im-

pactor; loosely floating in the alveolus they could be turned into the mouth without too much leverage even on the buccal ridge. In all these cases there was no injury to the corner of the mouth or adjacent tissues.

113 East Grace Street.

We Can't Pay You, But—

NO DENTAL author can ever be *paid* for a valuable technical or scientific article. The value of such material is above a monetary basis. In the preparation of a technical article, however, an author often expends money for drawings, photographs, models,

or graphs. We should like to help defray some of these expenses.

Until further notice, DENTAL DIGEST will allow \$25.00 toward the cost of the illustrations provided by the author of every article accepted.

If you have a constructive idea, an

innovation, a new result of tried and proved experiment, put it down in writing, illustrate it, and send the material to: DENTAL DIGEST, 708 Church Street, Evanston, Illinois.

We hope that you will accept this invitation!

The EDITOR'S Page

THE CONTROL of pain during cavity preparation has been a subject of investigation by dentists since the early days of operative dentistry. In the history of pain control, general analgesia and local anesthetics have been employed. Topical applications, made directly to the hard dental tissues, have also been used.

The ideal agent should be nontoxic, simple in application, quick-acting without local or general side reactions, and inexpensive. From a recent report by Rapp of Loyola University School of Dentistry, Chicago, before the American Dental Association, it would appear that he has developed a topical agent that fits these requirements.

Rapp has an original explanation for the mechanism of pain. He conceives of pain as a chainlike chemical reaction that liberates energy as it spreads along a nerve pathway. It may not be stretching the analogy too far to think of pain as an explosive end reaction that results from a chain reaction similar to the explosive end reaction from nuclear fission. The chain reaction that produces pain is under the influence of specific enzymes.

It should be recalled that "an enzyme is an organic compound, frequently a protein, capable of producing by catalytic action the transformation of some other compound or compounds." Catalytic action is "a changing of the velocity of reaction produced by the mere presence of a substance that does not enter into the reaction." Anesthesia, according to the theory of Rapp, is a phenomenon whereby enzymic reactions are inhibited by chemical methods. This inhibition or blocking interrupts the sensory impulses that flow along the nerve fiber and that are interpreted as pain in the higher cerebral centers.

The chemical method of enzymic inhibition requires that the drug be applied to nerve tissues and that the drug must penetrate the nerve tissues. Rapp, in describing the rationale, says: "It has been established that only the non-ionized, free base of the molecule can penetrate readily through the plasma membrane. This means, practically, that if we expect the drug to be effective, we must either apply it as the free base or else make conditions favorable for the local production of the free base.

"Because of the inherent nature of the free bases of local anesthetic substances, their solubility in water is limited. For this reason, it is practical to prepare anesthetic salts of such acids as hydro-

chloric, boric, sulfuric, and others. These salts are, in general, soluble in water and hence are usable for injection purposes.

"In vascular tissues, the basic constituents of the tissue buffers substances in such areas as might be injected with the anesthetic solution, are able to convert a goodly portion of the salt form of the anesthetic into the free base form. Such conversion makes an adequate amount of this essential ingredient available for penetration. Because of this phenomenon, many drugs in their salt form can be used for injection anesthesia.

"In contrast to this, the relative lack of alkaline buffer substances in such areas as dentine makes it almost impossible to have any appreciable salt-neutralizing effect. It is for this reason, then, that such solutions as procaine hydrochloride or monocaïne hydrochloride have little topical effect, while cocaine and butyn as well as benzocaine, being present in solution largely as the free base form, are good surface topical anesthetics."

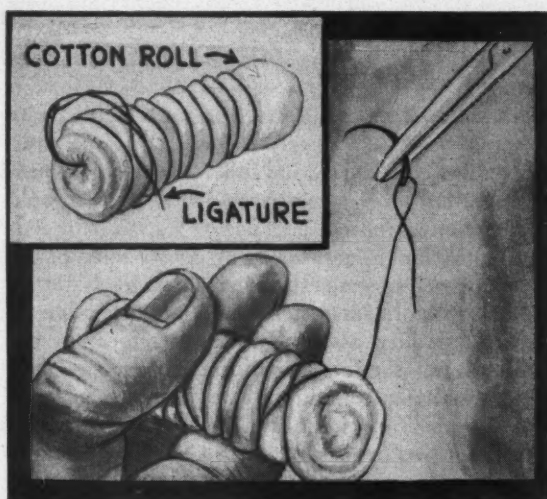
The composition of the topical solution used by Rapp is: procaine base, 3 grams; benzocaine, 3 grams; 50 per cent alcohol, 100 cubic centimeters.

Because of the lack of sensory receptors in the enamel, the topical solution is without value in operating on this tissue. Pain in cutting the enamel is a thermal response. Heat generated in the enamel by friction is conducted centrally through the dentine and extends into the pulp and thus through the fibers of the fifth cranial nerve to be recorded as pain. Pain in the dentine and cementum is, however, the result of a direct stimulation of the nerve endings.

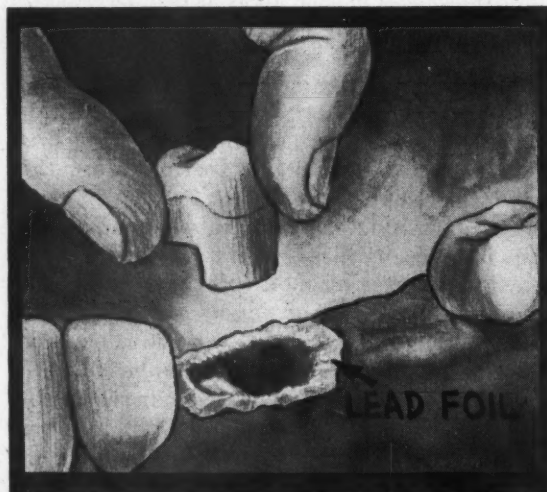
In operating on the enamel, the frictional heat may be controlled by using sharp, clean-cutting instruments and one of the devices that delivers a stream of heat-controlled water at the operative site. When the dentine is reached, the topical anesthetic may be applied before proceeding further with the cavity preparation. This combination of techniques should be effective in pain control.

The degree of success of topical application in dental anesthesia is a variable: In 98 per cent of the cases of noncarious dentine, the anesthetic was found to be successful; in 78 per cent of hard carious lesions and in 65 per cent of the soft lesions, there were successful results. The induction time of topical anesthesia averages about one minute.

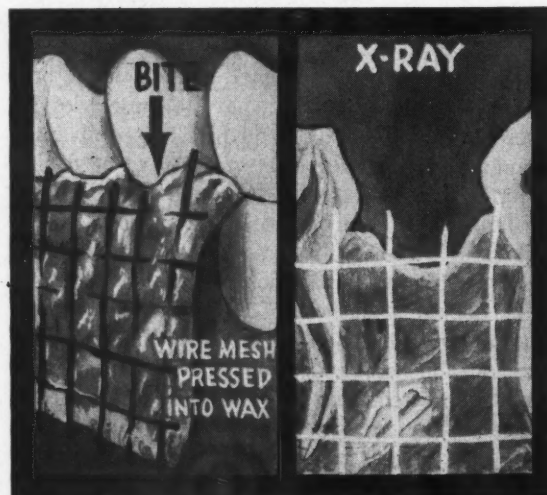
1



2



3



Clinical and Laboratory

A Method of Preparing Sutures

N. M. Ordene, D.D.S., Brooklyn

Fig. 1—To avoid fumbling with ravelled and knotted sutures during a surgical procedure, wind an adequate length of needle-threaded silk or nylon suture around a cotton roll and insert the point of the needle into the cotton. Sterilize and store the cotton roll prepared in this way. When a suture is required, grasp the needle by the needle-holder, release the point from the cotton, and unwind the suture. The entire length of suture is ready for immediate use.

Easy Replacement of Die on the Articulator

J. B. Schlader, D.D.S., Houston

Fig. 2—The metal die is accurately wrapped in lead foil (x-ray film backing) before mounting in plaster on the articulator. This method assures easy removal of the die and prevents chipping of the die and plaster that often results from forcible removal.

Localizing Fractured Root Ends

E. C. Lubit, D.D.S., Brooklyn

Fig. 3—Fold a piece of baseplate wax in the form of a right angle. On one fold imbed several pieces of wire to form a mesh. On the other fold obtain the correct bite relationship. Take a roentgenogram of the area with the wire mesh in position. This orientation will give the position of the root fragment. Place the wax in the original occlusal position. Inject a small amount of anesthetic solution in the square that is overlying the root fragment. Remove the wax. The blanched spot on the mucous membrane will indicate the exact position to open the tissue to remove the fragment.

READERS are Urged to Collect \$10.00

For every practical clinical or laboratory suggestion that is usable, DENTAL DICEST will pay \$10.00 on publication.

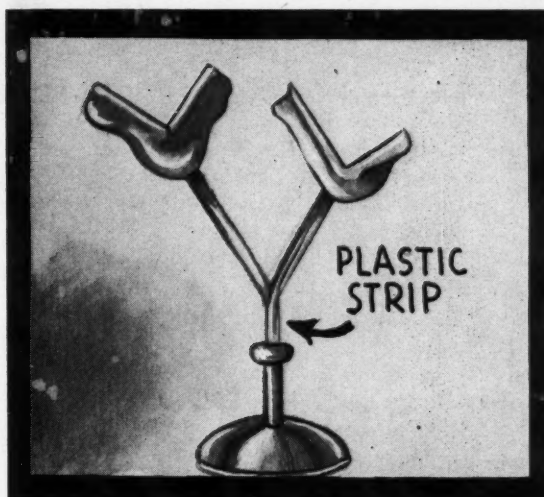
You do not have to write an article. Furnish us with rough drawings or sketches, from which we will make

or SUGGESTIONS . . .

Plastic Sprue Pins

P. M. Oungst, D.D.S., St. Louis

Fig. 4—Cut narrow strips of plastic from the cardboard on which denture teeth are arranged. These strips may be used as sprue pins and have these advantages over metal pins: (1) There is no need to remove them when the investment has set; they will burn out with the wax. (2) There is no danger of distortion or cracking of the investment which sometimes happens when metal pins are removed.



4

A Pressure Cooker Used as an Autoclave

L. G. Rhodes, D.D.S., White Plains, New York

Fig. 5—A large 16-quart pressure cooker, used as follows, makes a satisfactory autoclave: Place the short rack, furnished with the cooker, at the bottom of the container. Pour in from 8 to 12 ounces of water. Place the material to be sterilized on the rack. Such articles as towels and masks should be in towel-wrapped packages; sponges, swabs, tongue blades—in jars, from which they are subsequently used. A Bunsen burner under the tripod-mounted cooker or a small electric stove furnishes the heat. Fifteen pounds of pressure applied for twenty minutes provide dry, sterile material. Solutions may also be autoclaved in this way; however, the cooker must be allowed to cool slowly to prevent the solutions from vaporizing.



5

Reinforcement for a Davis Crown

J. H. Sarnat, D.D.S., Chicago

Fig. 6—In those cases in which there is an imperfect adaptation of a Davis crown to the root face, the adaptation may be improved and the crown strengthened by interposing a gold casting between the porcelain and the root surface. A piece of inlay wax is softened and adapted, carved to form, and the gold casting made.



6

suitable illustrations; write a brief description of the technique involved; and jot down the advantages of the technique. This shouldn't take ten minutes of your time.

Turn to page 554 for a convenient form to use.

Send your ideas to: Clinical and Laboratory Suggestions Editor, DENTAL DIGEST, 708 Church Street, Evanston, Illinois.



Legal Responsibility with New Remedies

Because of the large number of new remedies being announced from time to time it is wise to know the responsibility of the professional man in their use. The doctor should not experiment on a patient with new remedies unless he tells the patient beforehand and receives his permission or that of his legal guardian.

The patient's implied contract permits only the use of ordinary skill but does not grant consent for the use of an untried method of treatment.

Great care must be exercised because there are excellent remedies as well as harmful ones presented to the doctor. When samples of new drugs are received with a request that the doctor try them on patients, it must be remembered that the doctor does so at his own peril. And if the patient suffers from the treatment, the doctor may be liable for damages.

Moore, D. T. V.: Principles of Ethics, ed. 4, Philadelphia, J. B. Lippincott Company, 1939, pages 131-132.



Shock Therapy

Psychiatrists are administering electric shock therapy for a large number of functional psychoses with a high degree of success. As high as 80 per cent of the cases are benefited and approximately one half are cured.

Shock therapy is an empirical treatment fully justified by its results. It cannot be explained just what happens to bring about the improvement in these instances of mental disorders. However, it is assumed that the effects of shock are physiologic and physiochemical rather than anatomic.

Observers noted that the convulsions of epilepsy tended to give a freedom from dementia praecox. Therefore, it was reasoned that perhaps patients with some mental disorders could be helped by an artificially produced shock. At first the drug metrazol was used to produce shock. This was difficult to administer and con-

M E D I C I N E

and the Biologic Sciences



trol. The electric shock was tried and its use has been developed as the accepted method today.

The procedure today usually consists of the passing of about 115 volts of alternating current through the patient's head for about three tenths of a second. Machines delivering only one ampere with an automatic shut-off are used to prevent any serious injury to the patient. The treatment may consist of only a few shocks or quite a number.

As the current passes through the head the patient loses consciousness so that he retains no memory of the treatment.

The patient experiences a violent spasm which corresponds to an epileptic seizure. The spasm gradually subsides. Brain waves indicate that the action of the brain is nearly at a standstill and remains so until the patient regains consciousness after about half an hour. A period of confused thinking follows and may continue for several hours or even a day.

Often postconvulsive patients tend to use a phonetic type of spelling for a period of time. The memory is confused for awhile in some cases.

The benefits of shock therapy are unlimited as far as age is concerned. Patients past 80 have been helped. Even those with high blood pressure and tuberculosis have been aided. During the few years shock therapy has been used in the United States, there has been about one death for every two thousand cases treated.

There has been an intensive research to determine if there is any brain injury. There appears to be no permanent injury.

The greatest benefits are noted in cases of involutional melancholia, a disease of middle life characterized by a profound mental depression. Cases of dementia praecox and manic-depressive psychosis receive help from electric shock.

Shock therapy is a therapeutic tool which should be used conservatively and administered only by capable hands.

Kleinerman, Morris: The Present Status of Electroshock Therapy, American Practitioner 1:299-302 (February) 1947.



Deafness from Injury

A damaged hearing function frequently results from an injury to the head. The impact may be by way of the face, the vault, or the vertebral column. The injury may fracture the face, the vault, the base of the skull, the temporal bone, or it may not produce any bony fracture.

A loss of hearing is seen in many cases in which no fracture of any kind can be demonstrated.

More than one out of every four persons who sustain a real head injury will develop loss of hearing to some degree. The age factor is of considerable importance. The likelihood of an individual suffering a hearing loss after a head injury is in direct proportion to his age, being much greater as the age increases. Hearing impairment is found unilaterally and bilaterally in about equal proportions.

Younger individuals after a head injury often complain of a tinnitus. In subsequent weeks and months it develops into a definite deafness.

The exact nature of the cause for the impairment is not fully understood. It does not seem to be due to pathologic conditions in the hearing centers within the brain. The condition causing the hearing loss is assumed to be associated with the end organs.

It is known that an injury which has produced hemorrhage into the cochlear spaces or damaged the auditory nerve usually results in a condition that does not improve or which may result in further deterioration.

The dentist can often recognize an increasing hearing deterioration. If the patient gives a history of a head injury, the dentist can do him a valuable service by recommending early treatment.

Grove, W. E.: Hearing Impairment Due to Cranio-cerebral Trauma, *Ann. Otol., Rhin. & Laryn.* 56:264-270 (June) 1947.



Physiology of Body Types

For general purposes three body types are recognized: the intermediate type, the slender type, and the stocky type. Accurate observation reveals that the mechanism of the body and the potentialities of strain are different in the various types of body structure. The most striking contrasts are noted between the slender and stocky types.

It is recognized, too, that the physiologic processes differ in body types. The greatest variation probably lies in the function of the gastrointestinal tract. In the slender type the tract is short. Ingested food passes through the tract quickly and consequently assimilation must be rapid. This would seem to indicate a more concentrated kind of diet.

In the stocky body type the intestinal tract is long. A less concentrated diet is indicated since the passage of food is slower and assimilation can be carried on for a longer time.

One interesting evidence of this relationship is shown by the protest of the digestive system of slender children to a high caloric, high fat diet in large amounts when it is given in an attempt to increase weight.

The circulatory rate is usually more rapid in the slender type while the blood pressure is lower. The muscles of the slender type are capable of more rapid motion than those of the stocky type but are not so well adapted to long sustained action.

Disturbances in function occur more rapidly in the slender type. There is a greater tendency to eyestrain because of faulty body mechanism. Both the pulmonary and venous circulations have a tendency to be slow, even leading to a partial stagnation. Cold, clammy hands and feet and varicosities may result.

The shortness of the gastrointestinal tract leads to a poor assimilation and constipation. As a rule puberty occurs early and in the female dysmenorrhea is common.

Psychologically this type is quick to learn. Such people are often dogmatic and fanatical. They anger quickly and have a limited endurance but recover from fatigue quickly. They adjust easily to changes in environment.

In the stocky type the circulation is usually adequate with a tendency to high blood pressure. The countenance is ruddy and plethoric. The stomach has no difficulty in emptying, and there is good nutrition because the small intestine is long. Consequently there is a tendency to become fat. Puberty occurs late. The basal metabolism is often lower than the normal reading.

These people get along well socially, are easygoing and even-tempered. They work more slowly but have a greater endurance. Their recovery from fatigue is usually less rapid. They are not self-conscious, they tend to be extroverts, and they do not adjust to changes in environment readily.

Goldthwait, J. E.; Brown, L. T.; Swain, L. T.; and Kuhns, J. G.: *Essentials of Body Mechanism*, ed. 4, Philadelphia, J. B. Lippincott Company, 1945, pages 1-27.



Sedimentation Rate

The blood is a suspension of cells in a viscous fluid, the plasma. Only

the constant movement of the fluid keeps the cells evenly distributed. When the circulation comes to rest the cellular parts begin to sink.

Under ordinary circumstances the sedimentation of the cells even in blood withdrawn from the body can progress only to a negligible extent because the clotting process prevents settling of the cells.

When clotting is delayed, sedimentation continues until an upper layer of clear plasma becomes separated from the cells which have descended through the fluid.

The rate of sinking—the sedimentation rate—of the red cells varies in disease and under certain conditions of health. The rate is measured by the depth in millimeters of clear plasma which is found at the top of a vertical column of blood by the end of an hour.

The normal sedimentation of clear plasma per hour varies for different bloods. For men the rate is 1-3 millimeters per hour; for women the rate is 4-7 millimeters per hour; and for newborn children the rate is 0.5 millimeters per hour.

In normal pregnancy and in certain pathologic states the sinking rate of the red cells is found to be materially increased. The average figure during pregnancy is about 35 millimeters per hour. The rate is likewise increased during menstruation.

In septicemia the sedimentation rate rises to 100 millimeters per hour and in pulmonary tuberculosis the rate is 65 millimeters per hour. Moderate increases are seen in anemia, malignant tumors, and inflammatory conditions of the female pelvic organs.

A reduction in the sedimentation rate is rare. It may occur in allergic states, in peptone shock, and in sickle-cell and hemolytic anemias.

The lowered stability of the blood suspension in pathologic conditions is due to the clumping together of cells of normal size. The aggregation of corpuscles accounts for their more rapid sedimentation. The roughness and granular appearance of the blood due to corpuscular aggregation is evident to the naked eye when the blood is spread in a film upon a slide. Nor-

mal blood, in marked contrast, forms a smooth homogenous film.

Even though the test is nonspecific, it has considerable value in several conditions. It aids in gauging the degree of activity of tuberculous processes. It serves as an aid in the differential diagnosis of certain gynecologic lesions. Benign tumors of the pelvic organs cause no change in the rate whereas malignant growths, inflammatory states, and pregnancy cause a pronounced rise. In pyogenic infections the rate is an index of the extent and intensity of the process. And the sedimentation rate is used to estimate the activity of the inflammatory process in rheumatic fever.

Best, C. H., and Taylor, N. B.: *Physiological Basis of Medical Practice*, Baltimore, Williams & Wilkins Company, 1945, pages 50-52.



Trend in Heart Disease

There are approximately 4,000,000 persons in the United States with heart disease. During the past two decades there has been an increase in the number of people afflicted. And, the disease is still on the increase.

The increasing incidence is due to the general aging of the population and to a lesser extent to the increase in the total population.

Interesting occupational differences in cardiac patients are noted which seem to reflect the physical demands and the mental stress of various trades. Bartenders have the highest mortality from heart disease. Physicians have the next highest mortality. Barbers are affected virtually at the same rate as physicians.

A consideration of the types of heart disease from which people die is enlightening. During the past twenty-five years deaths due to chronic valvular disease have shown a steady and rather rapid decline. However, deaths due to disease of the coronary arteries have made a corresponding and alarming increase.

With regard to the prognosis of rheumatic fever cases it is noted that the death rate from chronic valvular disease in cases with no heart involvement during the first year after

the attack is comparatively low. The death rate is only 25 per 1,000 for boys. With cardiac involvement the death rate is materially higher being 208 per 1000 for boys.

In general it may be stated that the death rates for boys and girls following a rheumatic fever attack are approximately the same except during the first year of illness—whether or not the heart is reported to be enlarged. The mortality among boys during the first year is considerably greater than among girls.

Although the initial mortality of coronary thrombosis is close to 20 per cent, it is encouraging to learn that five years after the initial attack over 50 per cent of those so stricken are able to carry on their work quite well.

The worst prognosis in cardiac disease appears to be in cardiovascular syphilis which theoretically at least is preventable.

Editorial: *New England J. Med.* 237:139 (July 24) 1947.



Death

Scientifically speaking there are two types of death—somatic and cellular. Somatic death refers to the permanent cessation of all the visible activities associated with life. Cellular death occurs as a result of disease and is seen in various types of necrosis.

Cellular death may occur without somatic death. And in contrast cellular death usually is not complete until some time after somatic death. The cells of some tissues die more quickly than the cells of other tissues.

Vital organs are those essential to the maintenance of life. Their relative importance is measured by the rapidity with which somatic death follows complete cessation of their actions. The most important vital organs are the central nervous system, the circulatory system, and the respiratory system.

Death is almost instantaneous after complete obliteration of the central nervous system. After arrest of either the circulation or respiration, death follows in about seven minutes. The ultimate cause of death in failure of

either the circulatory or respiratory system is lack of oxygen.

It is often difficult to differentiate apparent death, as seen in partial asphyxia, catalepsy, trance and syncope, from true death. This is especially true in syncope or fainting which demands immediate treatment.

The presence of death may be detected by the special signs of death which closely follow the death struggle. At a later period certain cadaveric changes become apparent.

The special signs of death are: (1) the cessation of circulation; (2) the cessation of respiration; (3) complete muscular relaxation; and (4) eye changes. If the pulse cannot be felt or heard in absolutely quiet surroundings for a long period of time, one can be quite certain that death has occurred. In cases of doubt an artery may be cut to determine any flow of blood. Cutting a vein is misleading as postmortem contraction of the arteries may cause a gush of blood from a vein.

The presence or absence of respiration may be determined by careful observation or holding a mirror in front of the mouth or nose. A fog will appear on the mirror from expired air. There is a complete muscular relaxation except in cases where rigor mortis occurs at once. The eyes become glazed.

The important cadaveric changes are: (1) cooling of the body; (2) rigor mortis; (3) postmortem hypostasis; and (4) signs of putrefaction. Cooling is rapid for a short time but then proceeds more slowly until about twenty-four hours after death when the temperature of the surrounding air is reached.

When a person dies in a state of great excitement, rigor mortis may occur almost instantaneously. However, as a rule it appears within the first two hours. It is complete within twelve hours after its onset. The muscles of the eyelids and jaws are first involved. Then the process spreads to the limbs. Rigor mortis lasts from twenty-four to thirty-six hours and leaves the body in the order in which it came. If rigor mortis is broken by mechanical means, it never returns.

Dark red discolorations appear on

Announcing
the
AMERICAN JOURNAL
of
ORAL SURGERY, ORAL MEDICINE
AND ORAL PATHOLOGY
with
An International Review Of The Literature

Official Organ of:

THE NEW ENGLAND SOCIETY OF ORAL SURGEONS

Kurt H. Thoma, Editor

SEMINAR OF ORAL MEDICINE

Hermann Becks, Editor

AMERICAN ACADEMY OF ORAL PATHOLOGY

Hamilton B. G. Robinson, Editor

Editor-in-Chief:

KURT H. THOMA

Volume 1, Number 1.

January, 1948

This new publication is the outgrowth of the "Department of Oral Surgery" in the present "American Journal of Orthodontics and Oral Surgery," which has been a part of the latter periodical almost continuously since March, 1919. Thus, it will appear, even in its very first issue, as a mature, fully-developed journal, enjoying both a thoroughly experienced editorial management and an established and substantial readership.

As is indicated above, the new journal will have sections on oral medicine and oral pathology, and will represent societies of specialists in the three fields covered. Addi-

tional members of the editorial board will be announced later. The monthly issues will comprise one annual volume, which will total approximately nine hundred pages. The subscription rate will be \$8.50 for domestic or Latin-American Service, and \$9.50 for countries outside the Pan-American Postal Union.

Due to the fact that paper is still in short supply, printings of the early issues will be limited to the active subscription list, and so it is suggested that all dentists who would like to have a complete file of the new journal, order it before publication.

The C. V. MOSBY Company

Publishers • 3207 Washington Blvd. • St. Louis 3, Missouri

CLINICAL AND LABORATORY SUGGESTIONS

(See pages 548 and 549)

Form to be Used by Contributors

To: Clinical and Laboratory Suggestions Editor

DENTAL DIGEST
708 Church Street
Evanston, Illinois

From: _____

Subject: _____

Explanation of Procedure:

Sketch:

\$10 will be paid to author on publication of accepted suggestions.

the skin within one to six hours after death. These are due to the settling of the blood into the capillaries and its diffusion into the tissues.

The first distinct putrefactive sign is a greenish discoloration of the abdomen caused by postmortem disintegration of the blood. As a rule the brain succumbs first to putrefaction and the uterus last.

Recognition of death is important to the dentist. In fact there is consideration in some groups of the advisability of the dentist being granted the authority to sign death certificates.

Carter, C. F.: Microbiology and Pathology, ed. 2, St. Louis, C. V. Mosby Company, 1939, pages 464-469.

Contra- Angles



No Socialized Medicine, Please!

On a recent Monday I heard the speakers before the National Physicians Committee and the National Committee of Dentists tell why we should not have socialized medicine in this country. On Friday of the same week I sat outside an operating room door while one of my daughters underwent an emergency operation. All the values of private practice that I heard espoused at the meeting on Monday flashed through my distraught mind as I sat waiting. The philosophy of free choice and the preservation of the intimate personal relationship in the treatment of disease are values that we cannot afford to lose.

All who are sick and those who are dear to them need to be comforted. No governmental agent, no political appointee, none of the red tape of a bureaucracy with the snooping social service workers and the meaningless forms and authorizations can take the place of the friendly personal relationship. The family physician with

An "assist" with a TWIST

Are your patients inclined to be lazy—
not about brushing their teeth, but about
oral hygiene in its larger sense?

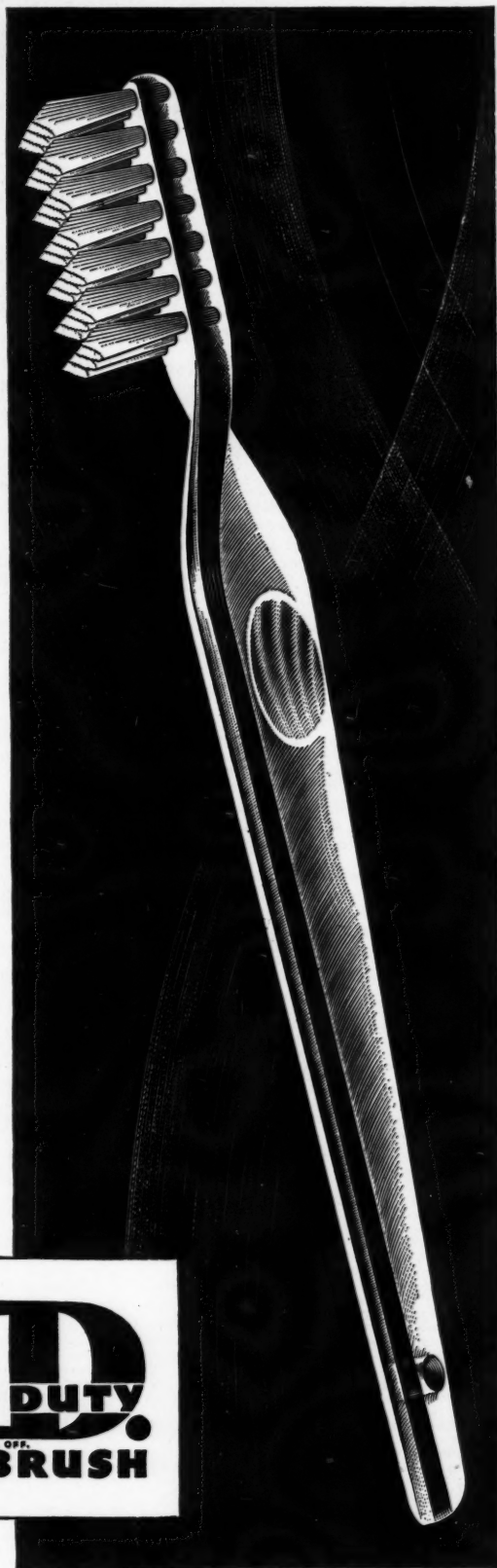
Maybe the D-D Tooth Brush will provide
the "assist" needed.

Designed with the aid of 1000 dentists,
the D-D Tooth Brush is a scientific tooth
brushing instrument with a *plus*—
a twist in the handle which automatically
favors the desired rotary motion for
gentle gum massage.

To encourage proper oral hygiene—
thorough cleansing plus gentle
gum massage—recommend the

PRODUCT OF
BRISTOL-MYERS
19 WEST 50 STREET,
NEW YORK 20, N. Y.

D D
DOUBLE DUTY
REG. U.S. PAT. OFF.
TOOTH BRUSH



You Can't Afford To Miss This Important Book

Psychobiologic Foundations In Dentistry

by Edward J. Ryan, D.D.S., Editor of *Oral Hygiene* and
Dental Digest. Past President of the Chicago Dental Society.

Second Printing

DENTAL AND MEDICAL BOOK REVIEWERS HAVE SAID

The American Journal of Medical Sciences: "The healing professions have been dominated to such an extent by the scientific method that common sense observation and understanding of man as an entity rather than a complex of signs and symptoms has tended to be forgotten. Dentistry, with its emphasis on technical excellence and its mechanical appliances, has not infrequently lost sight of the patient toward whose welfare the dentist's knowledge and skill were directed."

American Journal of Orthodontics & Oral Surgery: "Doctor Ryan offers a clear, unconstrained, and understanding summary on a subject both unknown in the dental curriculum and unfamiliar in the dental literature but, nevertheless, of paramount importance."

Quarterly Review of Psychiatry and Neurology: "... this instructive, enlightening, and interesting monograph, on a subject which should have its place in the practice of modern dentistry, opens pathways to even greater progress . . ."

The Journal of Periodontology: "One is bound to admire the author's courage in preparing a book for dentists on a purely biologic theme. It is a clear and convincing introduction to a study of the subject."

The United States Quarterly Book List, The Library of Congress: "... the book gives evidence that the psychosomatic approach is a part of the intricate mosaic of a more scientific pattern of health service toward which the health professions are moving."

PRICE: \$3.00

MAY WE SEND YOU A COPY ON APPROVAL?

CHARLES C THOMAS • PUBLISHER

301-327 East Lawrence Avenue

SPRINGFIELD • ILLINOIS

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS, OF AUGUST 24, 1912.

Of *Dental Digest*, published monthly at Pittsburgh, Pa., for October 1, 1947.
State of Pennsylvania,
County of Allegheny,

ss. Before me, a Notary Public in and for the State and county aforesaid, personally appeared M. B. Massol, who, having been duly sworn according to law, deposes and says that he is the Publisher of the *Dental Digest*, and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management, etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in Section 411, Postal Laws and Regulations, printed on the reverse side of this form, to wit:

1. That the names and addresses of the publisher and editor, are: Editor, E. J. Ryan, B.S., D.D.S., 708 Church Street, Evanston, Ill.; Publisher, M. B. Massol, 1005 Liberty Ave., Pittsburgh, Pa.; Managing Editor: None; Publication Manager, R. C. Ketterer, 1005 Liberty Ave., Pittsburgh, Pa.
2. That the owners are: *Dental Digest*, Inc., 1005 Liberty Ave., Pittsburgh, Pa.; *Oral Hygiene*, Inc., 1005 Liberty Ave., Pittsburgh, Pa.; M. B. Massol, 1005 Liberty Ave., Pittsburgh, Pa.; Lynn A. Smith, 10 Robin Road, Pittsburgh, Pa.; S. M.

Stanley, 7 East 42nd Street, New York City.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and that affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stocks, bonds, or other securities than as so stated by him.

(Signed) M. B. MASSOL,
Publisher

Sworn to and subscribed before me this 19th day of September, 1947.

(Seal) John C. Crouch, Notary Public.
(My commission expires April 12, 1951.)

understanding of the complete person should never be displaced by a civil service physician more interested in his rating than in his patient. The surgeon of our choice was not assigned from a governmental bureau but was selected by our own free choosing because of his skill and his qualities as an understanding human being.

As I sat waiting at the door of the operating room, I felt a sustaining inner confidence because my girl was in the care of "Joe" and "Jim," colleagues whom I have known and trusted and respected over the years. I knew that what would be done for my daughter would be the same as what would be done for their own without regard for bureaucratic regulations or preconceived rules that came from some bungling central governmental administrator.

As I kept my vigil, another surgeon came by, a chap who is a friend and dental patient of mine and whose wife I have known since she was a little girl. Only the day before this surgeon's wife was in my office for dental care. This surgeon, who is "Don" to me, said he would "look in" and see how my girl was doing. This he did and visited her afterward. There was no suggestion of professional jealousy. "Don" assured me that my girl could have no better surgical skill than "Jim" would give. This I knew because it was Jim who had trained a group of us dentists in first aid in the early days of the war before he left for service.

Those of us trained in the medical arts and sciences often make the mistake of overemphasizing procedures and techniques and forgetting the patient as a human being. We should thank God that He has given men the ability to develop anesthetics and drugs and high order skills to relieve the suffering. We must also be grateful that men have been given the gift of sympathy—the ability to understand and share the troubles of others.

During my waiting, I thought as a father, not as one who knows a little about medical science and the techniques of surgery. I was thinking of another day of tension more than

twenty-one years ago when this girl was born and when I had been given the same kind of understanding, friendly support by another group of physicians in another hospital. As I helped push the cart toward the operating room, I saw the golden hair, the smiling face unafraid, the legs grown long with the years. I now felt a bitter pierce of conscience over the unkind words sometimes spoken in the long interval between these two hospital days, the sentiments left unsaid, and the irritations expressed. These are, no doubt, universal emotions that well up in times of fear and trouble. So much of the physician's and surgeon's life is spent in the face of the great emotions: in the presence of life's beginning and its end, in pain and apprehension, in exultation and relief from fear and distress. The physician must, then, be able to look behind the external visage and see the soul that lies beneath. He can only do this when people are bound to him by the warm human ties that come in personal practice. A physician who would be required to function in the capacity of a government agent under the rules and regulations of a bureaucracy, would engender no more human warmth than we feel for other government employees.

It is conceivable that larger and better equipped medical centers could be built with federal tax funds under socialized health programs. But these centers would be mere hollow shells if the men who manned them were compelled to function under the cold and inefficient hand of government.

The social planners who accept the



CO-RE-GA
PROFESSIONAL SAMPLES

FILLED TO THE TOP WITH DENTURE COMFORT
Soft and cushiony but tenacious in its ability to hold dentures longer.
CO-RE-GA is known and universally recommended throughout the professional world.
The Perfect Adhesive for Dentures.

MAIL THIS COUPON
FOR YOUR SUPPLY
OF PROFESSIONAL
SAMPLES

Please send free samples for patients

Dr. _____

COREGA CHEMICAL COMPANY
208 St. Clair Avenue, N. W., Cleveland 13, Ohio

WILSON'S
CO-RE-GA

CO-RE-GA is not advertised to the public

COREGA CHEMICAL COMPANY
208 St. Clair Ave. N. W. Cleveland 13, Ohio

LAVORIS

Is a Quality Product

It is never cheapened to meet a price



Here's why I chose THE NARGRAF

The Nargraf's prompt-acting controls simplify technic and save time.

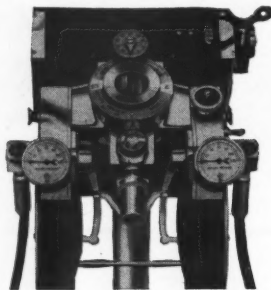
The Nargraf's intermittent flow principle assures a steady flow of gas with every inhalation.

By automatically co-ordinating the flow of gas with the breathing rate, the Nargraf does not have to be adjusted to every change in the patient's respiration.

With the Nargraf, a change in dosage reaches the patient almost instantly.

The Nargraf can be used for both anesthesia and analgesia.

The design of the Nargraf is based upon intimate knowledge of dentists' anesthesia problems. That is why the manufacturer can confidently say:



Know the Nargraf, and the Nargraf will be your choice of a gas machine.

NARGRAF



EUTHESOR

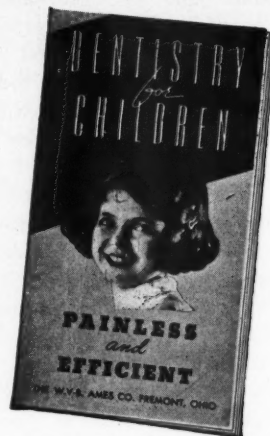
EASOR

Communist Manifesto of Karl Marx and Frederick Engels openly declare that their ends can be attained only by the "forcible overthrow of all existing social conditions." That means that private property, private enterprise, and the private practice of medicine and dentistry are to be "forcibly destroyed." For my part, I want to own my own home, humble as it may be; conduct my own business, large or small; be a free man to choose the medical and dental practitioner to care for me. I want no part of a society where I lose my identity and other men lose theirs.

It is a hundred years this month (November 1847) since the Congress of the Communist League was held in London and Marx and Engels were ordered to draw up the Communist Manifesto which read in part: "A specter is haunting Europe—the specter of Communism." The hundred years have seen the spread of this plague throughout the world and to our own doorsteps. The Communists have declared that "socialized medicine is the keystone to the arch of the socialistic state." Before the American people are unwittingly carried too far along the road to "support every revolutionary movement against the existing social and political order of things," they should ask themselves if they wish agents of the state to be present at birth, death, and through the many tribulations between. Are our people anxious to have their lives and the intimacies of their bodies and minds exposed to prying and impersonal government agents? The time to answer this question is not at some drawing-room debate but when a person or someone dear to him is faced with some illness or distress of the mind or body.

I have never, to my knowing, been acquainted with a Communist but I believe that they must have human emotions much like those of other people. When suffering from any disease they, too, must wish to be comforted, assured, and treated as human beings. This kind of treatment they do not receive from an agent of the State. God grant that the American people will never forsake the present

Send for this booklet



- Ames Copper Cement differs radically from all the other so-called copper cements both in chemical composition, germicidal efficiency and technic of use. These differences are valuable to you. The W. V-B. Ames Company, Fremont, Ohio, U.S.A.

AMES

Dental Cements

Others Have Tried BS POLISHERS Why Not You?

Many dentists have sent in the coupon below and found out why BS Polishers are preferred over many others. They can readily understand why this soft, flexible rubber polisher makes a patient feel safe and comfortable, also why it is easy for it to clean and polish every tooth to a lustre brightness. Why don't you find out these facts for yourself? Send the coupon in now!



Young Dental Mfg. Co.
St. Louis 8, Mo.

Gentlemen:
Without any obligation send us one of your BS POLISHERS — ABSOLUTELY FREE.

NAME.....
ADDRESS.....
CITY.....
STATE.....



care and craftsmanship



Ordinarily, care and craftsmanship are something you can't buy. You're sure of both, however, when you buy the services of your qualified Durallium laboratory.

Durallium laboratories, selected for their expert technicians and reputable business policies, offer you an unvaryingly high standard of service. Their handling of your cases is a practical guarantee of workmanship worthy of your professional skill.

available through your qualified Durallium laboratory

DURALLIUM *products corp.* ESTABLISHED 1936

225 NORTH WABASH AVENUE • CHICAGO 1, ILLINOIS

system of personal health care for an alien system that teaches that man "has no reality, who exists only in the mystic realm of philosophical phantasy." Man is real in health and disease. From birth throughout life to his death, the State should be his servant, not his master.—E.J.R.

Papular Leukoplakia of the Palate

**CLYDE L. CUMMER, M. D.,
Cleveland**

Symptoms

SUBJECTIVE symptoms of papular leukoplakia are slight or absent. Only occasionally does the patient perceive any roughness of the palate with the tip of the tongue. The majority are unaware of the disease until it is discovered by the examination.

The appearance is characteristic. The striking feature is the occurrence of red dots, often with depressed or umbilicated centers, which cap some of the papules. These are observed only on the mesial-posterior portion of the hard palate and the soft palate.

In a typical case, the anterior third of the hard palate was almost covered by numerous closely aggregated small gray papules, pinhead in size, with slightly roughened surfaces. The posterior third of the hard palate and the entire soft palate were covered with bright red papules of similar size which were just as closely set as the gray papules but had more hemispheric tops and were less firm in consistency.

With certain variations, that description would apply to the majority of recorded cases.

1. The entire palate is not always involved.
2. The papules are not inevitably small; some as large as 5 millimeters have been observed.
3. The eruption appears more frequently on the hard palate than on the soft palate.
4. The mucosal surface intervening between the gray papules, although usually gray, may be fairly normal in appearance.

In the examination of 16,802 vet-

erans at the Veterans Administration Facility in Washington, D. C., 327 persons were found with leukoplakia. In three instances, the palatal and buccal mucosa were involved; in two instances, the palate alone was involved.

It is my opinion that the condition is frequently overlooked in routine examination and that it would be found much oftener if the palate were scrutinized in all cases. The true nature of the lesions was not recognized even in some of the earlier cases re-

ported by competent observers because of lack of familiarity with the clinical picture. Doubtless this accounts for the paucity of references in the American literature. In this country, dentists seem to have been more alert in the recognition of this disease than have the medical practitioners.

About one person in every one hundred displays this condition, and the incidence is greatest in the later decades. In a series of 587 palates examined, there were six cases of

ACRALITE
REG. U.S. PAT. OFF.

Acralite—makers of Superior Products for Modern Dentistry—presents a group of outstanding products incorporating the latest developments in scientific research and utmost convenience in use. Acralite Hygeia Products have been thoroughly tested, both in our own modern plant and by consulting research laboratories.*



CONCENTRATED GERMICIDAL SOLUTION

Acralite Concentrated Germicidal Solution, diluted according to directions, possesses unusual bactericidal and germicidal potency... It comes to you in convenient, economical concentrated form. It is Non-Volatile, Non-Rusting, Odorless, Stainless, Non-Irritating, Non-Toxic and Stable! Available in half gallon bottles. (When diluted with water, 3 parts to 1, makes 2 gallons of germicide.)

ACRALITE CONCENTRATED GERMICIDAL POWDER

Acralite Concentrated Germicidal Powder is packaged in boxes of 10 small bottles. Each bottle of powder when dissolved in a quart of water, makes a total of 2½ gallons of germicide identical to that obtained with the concentrated solution, and possessing the same extraordinary germicidal potency. It, too, is Non-Volatile, Non-Rusting, Odorless, Stainless, Non-Irritating, Non-Toxic and Stable. The concentrate saves valuable space—and costs less.

ACRALITE CLEANSER • DISINFECTANT • LUBRICANT

The use of this triple-acting solution prolongs the life of your handpieces. It cleans all parts effectively and deposits a protective film of germicidal lubricant, thus reducing the possibility of the spread of mouth infection. Acralite CDI contains oil, carefully selected for its lubricating qualities, efficient cleansers, and the same powerful germicide used in our regular germicidal solutions.

*To confirm the findings of our own research workers, tests on the germicidal effectiveness of Acralite Germicidal Concentrates and Acralite CDI were conducted by an unbiased bacteriological laboratory. Copies of their reports are available on request.

ACRALITE

popular leukoplakia. Thirty-three persons exhibited slight to moderate diffuse whiteness or grayness of the palatal mucosa without papules. All but one of these were smokers to some degree, the majority cigaret smokers. Their ages ranged from 17 to 71 years.

Etiology

Age and Sex—Popular leukoplakia of the palate occurs predominantly in men. Of 51 cases studied in the literature, 49 occurred in men and 2 in

women. In the majority of cases reported, the ages ranged from 50 to 77.

Tobacco—A history of tobacco smoking has been obtained in almost all patients. The descriptive terms adopted by many authors clearly indicate their opinions as to the causation of the condition. Pipe smoking is incriminated more often than cigar or cigaret smoking. Patients have exhibited the lesions on the part of the palate not protected by a partial denture and none under the denture. One

Hygeia Products

ACRALITE PROPHYLACTIC CLEANSERS....

Acralite Prophylactic Tablets and Paste help you make patients' teeth cleaner and brighter. They are scientifically balanced formulas of cleansing and polishing agents, blended with mild, refreshing flavors. Results are uniform. Save time and effort with Acralite Prophylactic Cleansers. The tablets are convenient, economical and dissolve quickly to form an easily applied paste. The paste is already prepared for use. It is of the proper consistency; does not spatter from the brush.

TABLETS

PASTE

ACRALITE BUR CLEANER

Bur Cleaner quickly removes all debris by chemical action, thus eliminating brushing, preserving the cutting edges and adding the life of the burs. It is highly effective for diamond burs; it cleans thoroughly in three to five minutes.

ACRALITE ANTI-RUST TABLETS

Anti-Rust Tablets prevent the rusting, staining and corrosion of instruments frequently occurring in boiling and cold sterilization. Just add one tablet to each pint of water in the sterilizer. It's simple, inexpensive and keeps your fine steel instruments bright and clean.

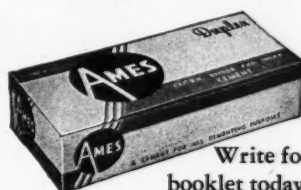
ACRALITE CONCENTRATED MOUTH WASH

Patients like this astringent, cleansing, pleasantly flavored mouth wash. It is supplied in highly concentrated form; dilution with 7 parts of water to one of the mouth wash makes a normal solution. Lessened packaging and shipping costs make for greater economy. Available in ½ gallon and full gallon bottles.

HYGIEIA PRODUCTS for MODERN DENTISTRY
ACRALITE CO., Inc., 230 W. 41 St., New York 18, N.Y.

All Acralite Hygeia Products are available through dental supply houses. If you would like detailed information and prices on all these products, just ask for booklet "H."

Takes Hold and Stays Put



Write for
booklet today.

• Gold and Pontic experts find Ames Crown, Bridge and Inlay Cement definitely superior in its power of retention to tooth, metal and porcelain surfaces.

The W. V-B. Ames Co., Fremont, Ohio

AMES

Dental Cements

REPLACE TEETH *Instantly* WITHOUT PROCESSING



REPAIR FRACTURES

... The better way

FIX-ACRYL

REG. U. S. PAT. OFF.

AN ACRYLIC REPAIR COMPOUND
a powder and liquid
Price \$2.00 per Pkg.

★
USED IN REPAIRING MORE THAN THREE
MILLION ACRYLIC DENTURES IN SIX
YEARS.

... The only successful repair
material in Dentistry!

CORALITE DENTAL PRODUCTS CO.
63 East Adams St. • Chicago 3, Ill.

THIS COAGO PAD



**STOPS
BLEEDING**

in 1 to 7 minutes

Over 1,000 dentists in forty-eight states are today using Halford COAGO Pads as hemostatic agents. COAGO hemostatic Pads are handy, economical and *proven*. A single pad stops hemorrhages of mouth or gums in 1 to 7 minutes.

FREE SAMPLE

A single sample will convince you. Send for free sample today.

Dr. Delaney
Halford Laboratories
1146 Roosevelt Ave.
Fresno, Calif.

MAIL NOW

Please send professional sample COAGO Pad without charge or obligation.

Name

Address

City State

dentist was able to clear up palatal leukoplakia by having his patient wear vulcanite plates.

The effect of abstinence from tobacco is significant. The lesions have been found to disappear when pipe smoking is stopped and smoking otherwise restricted. It might be well to consider briefly the opinions of some of those who have reviewed the general subject of leukoplakia of the mouth and its relationship to tobacco. One observer asserted that he had never seen leukoplakia in a nonsmoker; two observers found that 69 out of 80 patients used tobacco in some form; two others stated that most authors agree in the observation that tobacco is used by 80 to 95 per cent of the patients with leukoplakia. In 327 cases of leukoplakia, encountered by another observer, tobacco had been used by all the patients except five.

The type of smoking is important. It is suggested that pipe smoking is especially likely to produce palatal changes, for the stream of hot and unfiltered smoke is delivered directly against the roof of the mouth. Cigaret and cigar smoke, however, is to some extent filtered through the stub or butt and is diffused through the entire oral cavity.

Treatment

The indications for treatment are apparent. Cessation of smoking, especially pipe smoking, has resulted in either improvement or cure in too many cases to be disregarded. The wearing of a denture to protect the palate might be indicated in the case of inveterate, confirmed smokers.

It is inevitable that leukoplakia should be attributed to vitamin deficiency, the lack of both vitamin A and vitamin B having been incriminated. No convincing report of the beneficial effect of the administration of vitamin A has been found. One source has referred to results obtained by the use of either yeast alone or yeast with iron and hydrochloric acid. Of 23 patients so treated, four obtained the disappearance of all or a large part of the leukoplakic lesions on lips, tongue or buccal mucosa, while in seven others the lesions be-

PLASTIC GOLD

Trade Name *Flossgold* Mixed in Amalgamator 40 Seconds for Inlays, Crowns, Bridgework. A thousand uses, Only \$2.00—DWT.

VAX—Purified Copper. Small percentage silver nitrate. Place fraction under all silver fillings—Box, \$2.50.

Improved *Mixing Capsules* 4 for \$2.00—Will exchange all imperfect capsules for NEW—Gratis. Block of 6 Misc., \$6.00.

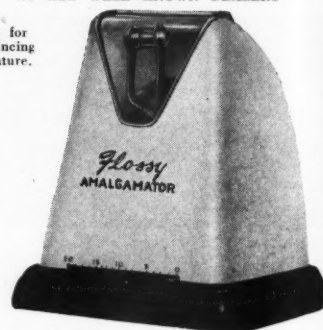
New price on the latest type Flossy Amalgamator—

\$57.00 with all accessories and sample materials.

All Imitation Motor Amalgamators \$15.00 and for non-motor \$10.00 credit is allowed on new machine.

AT ALL WELL KNOWN DEALERS

Send for convincing literature.



FLOSSY DENTAL CORP.

228 So. Wabash Ave., Chicago 4, Illinois



HOTEL STRAND

**ATLANTIC CITY'S
HOTEL OF DISTINCTION**

The Ideal Hotel for Rest and Relaxation - Beautiful Rooms - Salt Water Baths - Glass enclosed Sun Porches - Open Sun Decks atop - Delightful Cuisine - Garage on premises.

*Fiesta Lounge
Fashionable Rendezvous
of the Elite*

Exclusive Pennsylvania Ave. & Boardwalk

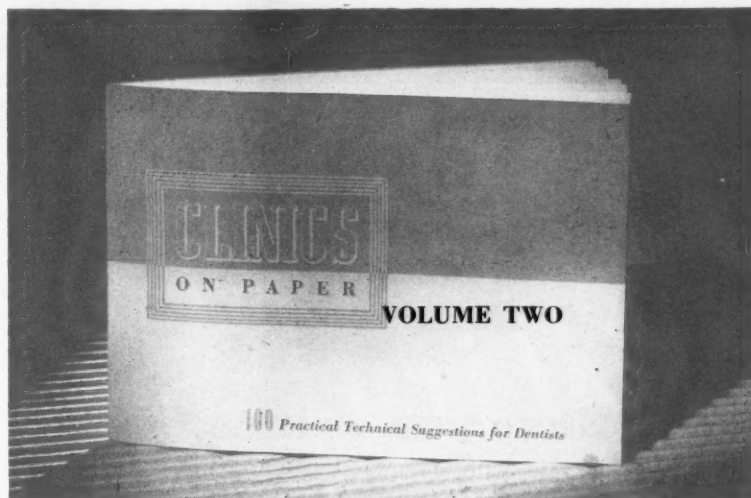
100

practical technical suggestions for dentists

* * * * *

A typical comment . .

*"It's too bad every
dentist does not
know of this
helpful publication"*



You'll value CLINICS ON PAPER just as highly as this fellow-practitioner after you have a copy only a few days. Many of its 100 practical technical suggestions will be of special interest to you . . . *one suggestion alone could well be worth more to you than the small investment you make.* Thousands of dentists keep this booklet in their operatories or laboratories for constant reference.

CLINICS ON PAPER is beautifully printed on expensive paper. Each of the 100 suggestions is skillfully illustrated. The booklet is illustrated by subjects and *colored* tabs designate various sections. It is easy to find suggestions on many problems that come up in every day practice.

Price, only \$1.00 per copy to regular subscribers to Dental Digest. Here's an investment that is really worth while . . . only 1¢ for each suggestion in CLINICS ON PAPER. There isn't a better bargain anywhere.

We urge non-subscribers to Dental Digest to refer to coupon for special subscription combination offer. Why not enter your order now and be certain of receiving practical technical material of tangible value in DENTAL DIGEST and CLINICS ON PAPER.

A TYPICAL LETTER . . .

The Dental Digest
Gentlemen:-

Enclosed find
check for a copy of Clinics on
paper which you will please
send to the enclosed address
with my compliments.

*It's too bad every dentist does
not know of this clever helpful
publication.*

Many thanks
Respectfully,
[Signature]

Dental Digest, 1005 Liberty Avenue, Pittsburgh 22, Pa.

- ☐ Here is \$1.00 for a copy of CLINICS ON PAPER. I am a regular subscriber.
- ☐ I am not a subscriber to *Dental Digest*. Please enter my order for 16 issues and a copy of CLINICS ON PAPER at special \$5.00 combination price.

Dr.

Address

City

Dealer

In your ORAL HYGIENE this month



Have you written to your Congressmen?

Flood them with letters! You'll be doing a great service to your patients, to your country, and to *yourselves* when you help make *all* health care tax deductible! Harold J. Ashe explains that the proposed change in the tax law would encourage more people to have regular medical and dental examinations and preventive care; that the improved health of the taxpayers would not only result in a healthier Nation, but in an actual *increase* of the Government's tax revenue. Dentists have a selfish, as well as an altruistic motive, for doing all they can to urge the change in the tax law. Read the article "Let's Make All Health Care Tax Deductible"—then act!

"Synergetic Action of Nitrous Oxide-Oxygen and Vinethene" — Doctor Louis Willinger gives detailed directions for the use of this general anesthetic and explains why it is particularly suited to the dentist's needs. If you have hesitated to give general anesthetics because of the difficulty of administering them, read Doctor Willinger's short, informative article.

"No Short Cuts to Dental Training"—Doctor Jerome S. Grosby takes exception to an article which appeared in the June issue of Oral Hygiene—Doctor George Schneider's "Why Should It Take Six Years To Make a Dentist?" He objects to dentistry being considered as a purely mechanical operation in the case of child treatment and urges that the profession refuse to permit non-dentists to perform children's dentistry in the schools.

"What Do You Expect from Dentistry?"—Perhaps you are past the point of choosing and are already receiving the benefits and satisfactions which can come from the practice of dentistry. If not, perhaps this article by Doctor J. Campbell Thompson will point the way toward getting more of what you want from your work.

If you could see yourself through the eyes of your patients, would you be satisfied? . . . It's a hard question to answer. Doctor Frank J. Hospers holds a looking glass to let you judge yourself. Will you risk a glance?

"You too will grow old. And you may become senile," states a recent article in Kiplinger Magazine. Though you may want to "perish the thought," it's better to think *now* while there's still time to make plans and provision for the later years. Retirement homes for dentists are a practical solution to the profession's responsibility to its members—and to the individual dentist's responsibility to himself and his family. Have you discussed the matter in your local society? The article "Old Folks Adrift" (reprinted by permission) will give you material for an intelligent summary of the present unfortunate situation of many oldsters who were *your* age not so many years ago.

You will want to read Doctor John W. Cooke's analysis of the general practitioner and the specialist; you will want to read of the experiment of three South American dentists; and you will want to read all of your favorite monthly departments.

came thinner or lost some of their yellow-white appearance.

Prognosis

As far as may be judged from the small amount of clinical material on record, the prognosis in papular leukoplakia of the palate is good. This has been especially true when smoking was discontinued.

Summary

1. The manifestations of leukoplakia on the palate are not always similar to those on the tongue or buccal mucosa.

2. Papular leukoplakia of the palate has not been generally recognized in this country. Some of the earlier cases were reported under other diagnoses.

3. Undoubtedly the condition would be observed oftener if routine examinations of the palate were made, and it would be recognized more frequently if physicians and dentists were familiar with this clinical variant of leukoplakia.

4. The papular form presents a striking clinical picture. In this form there are gray flat-tipped papules or red hemispheric papules.

5. Practically all reported instances have been in men; almost all of these have been smokers, especially pipe smokers. Syphilis does not seem to be a causative factor.

6. The condition has been cleared up in some cases merely by abstaining from smoking, while in others a protective denture covering the palate has been effective.

7. The prognosis is good. In none of the recorded cases has malignant change developed.

—From *Journal of the American Medical Association* 132:493-498 (November 2) 1946.

Dental Research of Tomorrow

SIR ALBERT HOWARD, C.I.E., England

THE GREATEST danger to avoid in future work is fragmentation—that curse of science, of administration, of education, and of our present way of

life. It has arisen because knowledge has grown at the expense of understanding. The inevitable result has been a plague of so-called experts, for the most part men and women who have wasted their lives in learning more and more about less and less, all sublimely unconscious of the fact that at the end of the road along which they are traveling will be found the ideal expert—an individual who knows everything about almost nothing.

In the dental investigations of tomorrow there must be no fragmentation. *It must never be forgotten that our teeth are joined up with the solid framework of our bodies and are therefore part and parcel of mankind. They cannot, therefore, be considered apart and as a closed subject in themselves. Any diseases to which they are subject are mere symptoms of some deeper cause, one of the most obvious of which is the malnutrition which results from improper feeding.* It may very well turn out to be the chief cause. It follows, therefore, that the dental investigations of the future must embrace the protein chain from the soil to man and back again, and the investigators must see to it that no defects in this cycle occur.

This brings the investigator into contact with the soil. The land which produces the food must be in the best possible fettle. The produce of that soil must reach the stomach fresh, whole, and unsophisticated.

These conditions have hardly ever been realized in the many nutritional studies of the past. Insufficient care has been taken to secure quality food. The consequence is that the literature of the subject is littered with results which have no solid foundation and on which no firm conclusion can be based. They merely confuse the issue by a fog of technicalities.

—From *British Dental Journal* 83:27-30 (July 18) 1947.

Buy
Savings Bonds

JELENKO GOLDS

THERE'S A JELENKO GOLD FOR EVERY DENTAL NEED.

MODULAY
REG. U.S. PAT. OFF.
GOLD COLOR
for M.O.D. and Simple Inlays.
Certified to Meet A.D.A. Specification No. 5.

CARMILAY
REG. U.S. PAT. OFF.
GOLD COLOR
for Carmichaels, Full Crowns and All Crown and Inlay Abutments.

Surdicast
REG. U.S. PAT. OFF.
GOLD COLOR
for 1 piece and Unit Castings, Clasps, Bars, Saddles, etc.

SCIENTIFICALLY SAFE
JELENKO & CO. INC.
PITTSBURGH, PA. U.S.A.

CELLULOIDE
Jiffy Cement Tube
NOT AFFECTED BY WATER
WILL NOT RECOGE BASTILE
LEE S. SMITH & SON MFG. CO.
1505 PINE AVE., PITTSBURGH, PA. U.S.A.

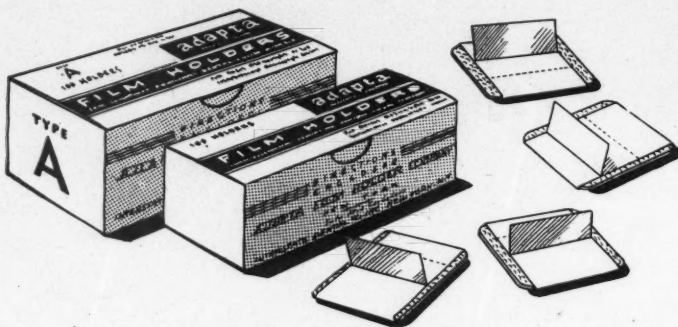
CONVENIENT—USEFUL—ECONOMICAL

**For depositing cement
in HARD-TO-GET-AT PLACES**

Use of the Jiffy Cement Tube saves time — improves your technique. Just scrape cement from spatula into Jiffy Tube (Dia. 1), then place cotton pledget over the top of the tube and squeeze cement through tube directly into the spot you want to reach. (Dia. 2) Simple, effective. Also ideal for root canal work.

ORDER A BOX FROM YOUR DEALER TODAY.

LEE S. SMITH & SON MFG. CO., PITTSBURGH 8, PA.



adapta FILM HOLDERS — the ONLY patented Holder
Thousands of Satisfied Users Rate Them **INDISPENSABLE**

• **CONVENIENT**

Easy to use. Just insert any standard film in loop of holder with TAB IN CENTER for BITE WING or TOWARD EITHER END for APICAL exposures

• **SANITARY**—used only once

• **INEXPENSIVE**

Saves up to 70% of the cost of bite wing films and holds films in apical position too

• **NON-SLIPPING**

Holds film firmly in a closed mouth position. Easy to judge angles. Uniform film edge-tooth position always

• **ELIMINATES GAGGING**

in most sensitive patients because there is no need for fingers in the mouth. No pressure on sensitive mucosa by films

Now Available in 2 Sizes

TYPE A for anterior x-rays, REGULAR for posterior x-rays.

Either Bite Wing or Apical, as desired, merely by adjusting tab position.

\$1.25 a box of 100 at all dealers.

INTERSTATE DENTAL CO., INC.

Sole Wholesale Distributors

New York 18, N. Y.

Still Available

COGSWELL'S

"DENTAL ORAL SURGERY"

A text book for the general practitioner

. . . and for the man who specializes.

Price, \$10.

Through your dealer, or direct

DENTAL DIGEST

1005 Liberty Ave.
Pittsburgh 22, Pa.



NITRODENE

does

PREVENT RUST

in your sterilizer.

Simply add to the water in accordance with directions.

Order a bottle from your dealer; or use the coupon on page 571.

CONTINENTAL CHEMICAL CO. VANDALIA, ILL.

**Silver Nitrate
Precipitation by
the Howe Technique**

G. C. CLEARY, D.M.D.

Technique

1. Carefully remove as much debris as possible from all fissures with the finest of explorers.

2. Clear away the mucin from all available areas with a bristle brush carrying a pumice mixture. (A flat ribbon floss will carry the pumice mixture through the interproximal spaces, clearing away mucin and debris.)

3. Thoroughly flush the mouth with warm water under pressure. (Mouth washes containing chlorides or formaldehyde must not be used.)

4. Isolate the tooth from any contact with saliva and scrub for one full minute with a full strength solution of hydrogen peroxide.

5. Carefully dry the tooth with a blast of warm air.

6. Flood the tooth with alcohol.

7. Dry the tooth "bone dry."

(From this point on, in the procedure, it is imperative that no saliva comes in contact with the tooth. If saliva does flood the tooth, start over and repeat the peroxide and alcohol bath. This is important because saliva contains dissolved sodium chloride which will result in the formation of a silver chloride.)

8. Apply the nitrate of silver solution to the area under treatment with the correct type of instrument, preferably the Forsyth model applicator. (The use of a correct instrument is stressed because the amount and placement of the fluid must be under the control of the operator.)

To attempt to use a wad of cotton to place the solution means an absolute loss of control of the fluid and also a lack of knowledge of the amount of fluid reaching the tested area.

Another word of warning. If one is to attempt a nitrate of silver technique, it is absolutely essential that a chemically balanced, fresh solution be used. The corner druggist does not possess the equipment, knowledge, or skill necessary to make up an am-

Everyone likes the CDX

These Owners Tell Reasons Why!



"Streamlined tube head gives full visibility of operating field at all times."



"Taller than average dentists like myself appreciate the adjustable tube column ... really facilitates operation."



"The easy handling of the CDX always appealed to me. Produces radiographs with a minimum of time and effort."



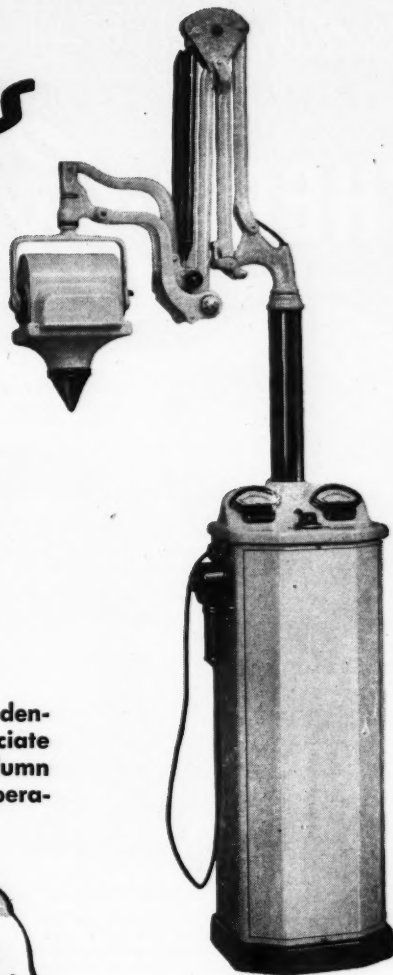
"Wide travel range of tube head permits radiography of both jaws at one chair level. Great time saver."



"Helped me build my practice faster. Made a favorable impression on my patients."

These voluntary comments by CDX owners are just a few of the many reasons why thousands of dentists are confirmed CDX enthusiasts. To learn *all* the benefits of owning a CDX write today for our "fact-packed" CDX booklet. No obligation of course. Address General Electric X-Ray Corporation, 175 W. Jackson Blvd., Chicago 4, Illinois.

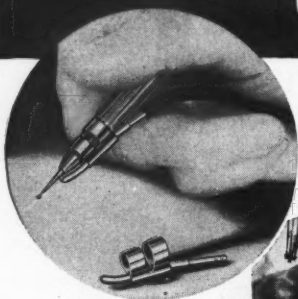
**GENERAL ELECTRIC
X-RAY CORPORATION**



"Best looking unit! Has a beauty of design all its own. Lasts longer too."

Frictional HEAT Eliminated

THERM-Ex SPRAY



● THERM-Ex SPRAY effectively cools burs, diamond points, stones, discs during cavity preparation with its atomized water spray.

● THERM-Ex SPRAY alleviates pain through continuous removal of frictional heat from rotating tool.

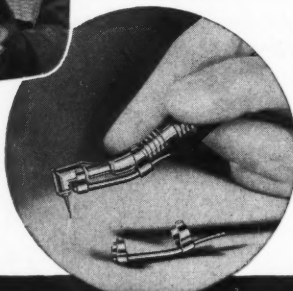
● THERM-Ex SPRAY reduces discomfort to the patient, minimizes "fear of drilling"... eliminates need for local anesthetic.

● THERM-Ex SPRAY saves operating time by permitting longer periods of sustained and faster operation.



PATIENT OPERATED
Controlled by the patient THERM-Ex provides psychological distraction from the operation.

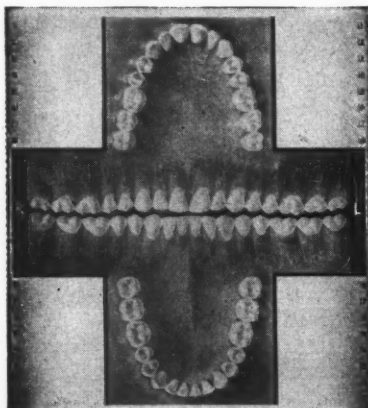
The special "Atomizer" attached to your spray bottle is adjustable to vary the volume of spray. Rubber tubing connects the "Atomizer" with the THERM-Ex SPRAY snapped onto handpiece or contra-angle. Patient presses air-cut off when sensing pain or as directed.



AVAILABLE AT YOUR DENTAL SUPPLY HOUSE



HANAU ENGINEERING CO., INC.



Permanent Records Are Important . . .

Do you have a permanent record of the mouth of each of your patients? This type of record is tremendously important, and easy to accomplish. Use the Ryan Treatment and Examination Chart as illustrated here. It is being widely used and is acclaimed the most practical chart for record purposes. Use it on *one case* . . . and you will want to use it on *every case*. The coupon is for your convenience.

Dental Digest
1005 Liberty Ave., Pittsburgh 22, Pa.
Here is \$1.00 for a pad of 50 Ryan Examination and Treatment Record Charts.

Dr.

Address

City

monical solution of nitrate of silver which will remain a balanced solution. The cost of the Howe solution, prepared solely for dental use is negligible per unit of treatment.

9. Allow at least two minutes for the chemical to penetrate into the depths of the fissures.

10. Take up any excess of solution.

11. With another applicator, apply Howe's formalin.

(Right here is the crux of the rationale of the Howe technique: If definite results are to be attained, it is imperative that formalin be used and *not* eugenol. There exist some operators who hope, in vain, that eugenol will do what formalin does. This thought is erroneous and a simple test will convince the operator that eugenol reduction is merely a surface stain. Apply nitrate of silver to any carious area, reduce with eugenol, extract the tooth, and section it by grinding. Such a treated tooth is devoid of any visible penetration. Treat another tooth following the Howe technique and on section note the depth of penetration.)

The mass resulting from the application of nitrate of silver (Howe) reduced by the application of formalin (Howe) is a complex albuminate of silver. This mass is *not* present when eugenol is used as the reducing agent. Eugenol is not recognized as a potent sterilizing agent; formalin is recognized as a potent sterilizing agent.

Results

This technique carried to its correct and logical conclusion will result in a caries-free, caries-arrested area. Repeated applications will eventually present a surface so impregnated with metallic silver that burnishing is possible.

In the interproximal spaces a piece of cleaned, sand-free, linen strip attached to the lugs of a rubber dam clamp will carry the nitrate and formalin occlusogingivally and buccolingually with identical results chemically.

—From *Journal of Dentistry for Children* 14:23-24 (Third Quarter) 1947.